CORPORATE CRISES IN CYBERSPACE: EXTENDING PUBLIC RELATIONS MEDIA MONITORING TO THE PUBLIC DIALOGUES ON THE USENET

By

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Managing unexpected crises is a primary concern of the public relations profession. With the remarkable growth of on-line communication using the Internet, companies can no longer deal exclusively with conventional media such as newspapers, radio, and television. Keeping a crisis situation under control has become an even greater challenge in the age of cyberspace. This dissertation applies basic agenda-setting theory to two crisis cases involving the interaction of conventional media coverage and the USENET dialogues by on-line users. The on-line dialogues were sampled from a search engine on the Internet. The conventional media stories were gathered from the Lexis/Nexis data base. Two corporate crises selected for testing the hypotheses were the Mattel Doll Defect case and the Hudson Foods Meat Contamination case.

The crisis communication model predicted that after a crisis happens, public opinion about the company would be more negative than before its occurrence. As the

company adopted interventions to ameliorate the detrimental impact caused by the crisis, the number of negative on-line dialogues would decrease. Unlike the traditional method of examining the public agenda in agenda-setting studies, content analysis of the public dialogues on the USENET, a dependent variable, was employed in comparison to the conventional media agenda, an independent variable. The number of on-line dialogues was assumed to have a corresponding relationship with the media coverage of the crisis.

While the number of negative on-line messages about the company increased after the crisis and were reduced due to intervention strategies adopted by each company, the total number of on-line messages did not decrease after the intervention in the Hudson Foods case.

Results in the Mattel case revealed a significant correlation between the number of media coverage and that of on-line messages. The significant correlation between the tone of media stories and the number of negative on-line messages was also found in the same case. However, this relationship that derived from agenda-setting theory was not detected in the Hudson Foods case.

Despite the specific findings in each case, further examination of the combined data supported the basic components of agenda-setting theory. There were correspondent relationships between the media reports and the public agenda as well as between the tone of media stories and the number of negatively toned on-line messages.

CHAPTER I
INTRODUCTION

Overview

The topic of media effects has been a primary research domain for over three decades. Among the many theoretical approaches that have been proposed, one of the most popular has been agenda-setting theory. Hundreds of studies have utilized aspects of the agenda-setting framework to reveal positive correlations between media coverage of issues and their distinctive importance in people's minds.

The development of agenda-setting theory can be understood from two levels of research. The first level study can be traced back to 1972 when McCombs and Shaw wanted to explain how and why people think about different social issues and rank their importance. The findings showed a significant correlation between people's ranking of issues' importance in their minds and the amount of media coverage. In other words, the salience of issues in people's minds is greatly influenced by and transmitted from the media coverage.

Besides the original focus on the issue salience transmitted from media to the public's mind, media effects in view of agenda-setting theory have also been found from another perspective. The selection of objects and attributes of an issue in the news media becomes a major concern. How news frames and agenda attributes impact the public agenda plays a central role in the second level study of agenda-setting studies (McCombs,

1997). The research question in the second level has moved from "Does the amount of media coverage transmit the issue salience to people's minds?" to "To what extent is the public's view of an issue shaped by the media, that frame objects or attributes of the issue in different ways?" To further understand the media effects on people's interpretation of social issue(s), researchers look into the content of media coverage, instead of the number of media stories on particular issues, and then examine how the news content has been framed in ways that most affect people. The key difference between the first level and the second level approaches to agenda-setting theory is in the way researchers study the media coverage.

The central concept of agenda-setting theory is an explanation of the causal influence of the media agenda on the public agenda. Regardless of the level of agenda-setting research that measures the media agenda from different aspects, the most common methodology is the survey. For example, researchers will ask people "What is the most important issue facing the society or yourself?" or "How do you think about a particular issue or person?" These responses are compared with media content analyses to determine if the media content influences people's thinking about different issues.

Problem Defined

Whether the survey is conducted by telephone or mail, this method can be somewhat obtrusive and may not capture the true opinions of subjects. What people really *think or say about* the issue(s) in the interest of the researchers may not be completely detected by asking conventional survey questions.

In contrast to surveying, content analysis has been available as a less obtrusive method for analyzing messages for many years. Researchers have used content analysis to evaluate the intentions or opinions of the professional communicators such as newspapers, magazine, radio, television, and so on. However, no studies have used content analysis to probe the expressed public opinions of the *receivers* of these mediated messages about some particular issues within agenda-setting theory. With the introduction of new interactive media technologies, particularly the Internet, ordinary people can now express their views to their fellow citizens without the use of the conventional media. Based upon the public relations crisis management concept combined with new communications technology, this research will employ content analysis to measure the public agenda for the purpose of extending the dimensions of agenda-setting theory.

Research Purpose

Given the Internet's dynamic characteristic of transforming information senders to receivers, this new electronic delivery system provides both possibilities and problems for the public relations professional. In particular, the Internet offers special challenges when a company experiences some type of crisis.

The public relations field has long been criticized for its lack of a formal and consistent theoretical framework to help its empirical practice; neither is there a mutual understanding between public relations theorists and practitioners (Terry, 1989). This tension is exacerbated when discussing crisis management communication. Because public relations crisis communication demands an accurate depiction of public opinion

during the crisis, the Internet needs to become an integral part of contemporary agenda-setting theory.

By modifying the concepts of agenda-setting theory founded by McCombs and Shaw in 1972, the current study will examine the relationship between the traditional media coverage of a corporate crisis and public opinion expressed on the USENET, one of the popular functions on the Internet. While previous agenda-setting studies examined public opinion by either conducting cross-sectional telephone surveys or using secondary public opinion surveys, this study will break new ground by abandoning survey methodologies in favor of content analysis of the on-line public messages on the USENET. This new type of analysis will permit public relations practitioners to "eaves drop" on people's conversations about the crisis event without disturbing their communication. This method also will consolidate the theoretical framework of agenda-setting theory in the domain of the public agenda. In addition, the time frame effects of media coverage of corporate crises on the on-line public discussions that occur daily on the Internet are examined.

Another goal of this study is to understand the flow of on-line discussions when a corporation is in the process of a crisis and how corporate crisis management strategy impacts the flow of on-line discussions.

The examination of on-line messages as opposed to traditional media news coverage will provide preliminary insights into understanding the formation of on-line public opinion. Comparison of the media agenda and the public on-line agenda is needed to have a better understanding of how these two factors interact.

After analysis of two case studies involving both the media agenda and the public agenda concerning a corporate crisis, this research outlines a dynamic crisis communication model that is intended to help companies prevent further damage as a result of an organizational crisis. Based on a public opinion model of crisis management proposed by Sturges (1994), this restructured model will provide greater insights into how to effectively manage public opinion and control the crisis to the advantage of the corporation.

Dissertation Outline

The following chapter describes the essential concepts and development of agenda-setting theory that forms the basis of this study. Studies related to the Internet are presented as well. In the third chapter, crisis management literature is reviewed to understand the points of view of both scholars and public relations practitioners about how to manage the corporate crises. To apply a general public opinion model to the flow of on-line discussion messages, Sturges' (1994) model along with MacKuen's strategy model of public dialogue is introduced. The research questions and hypotheses will conclude the third chapter.

Chapter four discusses the methodology used in this study: content analyses of both traditional media coverage and on-line discussion messages. It also explains the intercoder reliability test, independent and dependent variables, and conceptual definitions. The fifth chapter presents the findings of hypothesis testing for two corporate crises and post-hoc analysis. In the final chapter, a summation of the results, the

discussion of findings, limitations of this study, and the practical implications and suggestions for future research are discussed.

CHAPTER II
LITERATURE REVIEW

When a crisis occurs, the media can shape the general public's perception about the targeted organization and how it deals with a particular crisis. To better understand how mass media affect people's perceptions about the organization, a sound theoretical background is necessary. A viable theory will help public relations professionals understand not only how their company is portrayed in the media, but to what extent the general public has been affected by the media coverage of the crisis.

Having been tested for nearly three decades in the mass communication field, agenda-setting theory emphasizes a unidirectional impact from the media agenda to the public agenda. Applying this theory to the crisis management communication, public relations professionals are better able to detect the trend of public opinion and how long-term media coverage influences people's opinions as a crisis event evolves. After understanding how the public thinks about an issue, the corporation can then adopt appropriate strategies to manage and ultimately resolve the crisis.

The following chapter will first review the agenda-setting theory in detail, followed by a discussion of pertinent studies of the Internet.

Review of Agenda-Setting Theory

First Level Research

Agenda-setting theory was originally proposed by McCombs and Shaw in 1972 when they conducted their pioneering study in Chapel Hill, NC. In that study, the amount of media coverage of various issues within a period of time was compared with the public's ranking of their importance. The results revealed the powerful effects of media on transmitting the salience of issues to people's minds.

Three types of agenda are involved in the agenda-setting research: media agenda, public agenda, and policy agenda. The hierarchical effects derived from this theory are that the media agenda would influence the public agenda, which in turn may influence policy agenda (Dearing & Rogers, 1996). Sometimes a fourth variable is studied in agenda-setting studies: a real-world indicator, that Dearing & Rogers (1996) defines as "*a variable that measures more or less objectively the degree of severity or risk of social problem*" (p. 23). However, since the real-world indicator varies depending on the issue topic, this variable to test agenda-setting theory is seldom used.

Measurement of Media and Public Agenda

Media agenda are usually measured by content analysis of the news media, initially employed by McCombs and Shaw (1972) and Funkhouser (1973), to determine the number of news items about an issue or issues of study. The more news coverage is devoted to an issue, the more salient that issue is considered to be for the media. In this case, number counting is a very important way to measure media agenda. With growing popularity of computer usage in recent years, computerized content analysis has become

an efficient alternative to counting news stories or identifying words in a text when they appear together. It also facilitates qualitative analysis in some cases.

Public agenda were originally measured by asking a question in public opinion surveys: "*What is the most important problem facing this country today?*" This type of question has been used for decades in national public opinion surveys. It can indicate the relative importance of an issue in the public's mind. In contrast to the measurement of media agenda, the researchers will determine whether people take cues from the amount of media coverage to answer the "MIP" (most important problem)-type question.

Intervening Variables in Affecting the Public Agenda

Although the original agenda-setting study has specified the direct relationship between the media agenda and the public agenda, many other factors intervening in the causal relationship have been found in various studies including intensity and variation in news coverage. Brosius and Kepplinger (1990) found that agenda-setting effects were most likely to occur when coverage was intense and when there was significant variation in the coverage from month to month. In addition, the type of issue is another focus in the agenda-setting study. Wanta and Hu (1993) found that press coverage, besides increasing public concern with certain issues, can also decrease concerns. It mainly depends upon recipients' self-involvement and interest in the issues.

Media credibility is another determining factor. Rogers and Dearing (1988) concluded that the *Herald-Tribune*, a local newspaper, transmitted more salience of a news item to the subjects than the *National Enquirer*, a national tabloid magazine. Wanta and Hu (1994) also indicated that individuals who perceive the media as more credible

would rely more on the media for information about issues and hence be more susceptible to the media influencing their understanding of issues.

The extent of media exposure is another intervening variable. The more media exposure, the more possible the public agenda will be influenced by the mass media (Weaver et al., 1981; Mullins, 1977; Wanta & Hu, 1994). People's need for orientation also transfers the media agenda to the public agenda. Zucker (1978) pointed out that if people have fewer direct experiences with an issue, the news media's influence on public opinion about that issue will be greater than otherwise. By analyzing television and newspaper issue coverage for four weeks, Wanta and Wu (1992) found that interpersonal communication can reinforce the media agenda-setting effects on the public agenda when the conversation deals with the same issue that media have emphasized.

Studies of Intermedia Influence

Not only do newspapers and television play a central role in setting media agenda, but the wire services set the agenda for newspapers as well. The coefficient of concordance between the contents of 24 Iowa daily newspapers across 13 categories and those of the *Associated Press* amounted to 0.915 in Gold and Simmons' (1965) study. After analyzing 20 afternoon newspapers around the nation, Stempel (1964) found that average use of the *Associated Press* news items by these papers was 22 percent, ranging from a low of 11 percent by a New York paper to 34 percent by the *Rochester Times-Union.*

Whitney and Becker (1982) examined the gatekeeping effects of wire service news among 46 editorial managers from newspapers and commercial television stations. They concluded that at the least local media are greatly influenced by "the decisions of a

relatively few editors operating at the regional, national and international bureaus of the wire services" (p. 65). Reese and Danielian (1989) studied the media coverage of the drug issue in 1986 and provided evidence of strong intermedia agenda-setting effects from the *New York Times* to other television and newspaper organizations.

Time Frame Issues in Agenda-Setting Research

How long will an issue remain salient in people's minds? One of the most essential considerations in testing agenda-setting hypotheses is the time frame utilized by the researchers in their studies (Eaton, 1989; Funkhouser, 1973; Mullins, 1977; Sohn, 1978; Stone & McCombs, 1981; Wanta & Hu, 1994). In general, time-lag selection is important because it demonstrates the time-varying causal effects. The length of time taking effects from the media agenda to the public agenda depends upon factors such as nature of the issue, total amount of media coverage, personal relevance, and so on (Eyal, 1979; Mazur, 1987). Salwen (1988) urged that any time discrepancies in the measurement of the public agenda may affect the public's evaluations of issue salience.

Agenda-setting studies have to be concerned with the time frame over which media coverage has the most impact on public opinion. Winter and Eyal (1981) suggested the "optimal effect span" is between 4 and 6 weeks, whereas Stone and McCombs (1981) thought that it takes two to six months for changes in the media agenda to be fully "translated" to the public agenda. Shoemaker et al. (1989) used two months as a basis to analyze the relationship between drug coverage and public opinion. Shoemaker et al. (1989) proposed that coverage which recurs in emphasis on a three- or four-month schedule may have the most influence on public opinion. Consequently, the causal relationship between media and public opinion will be detected within a period of time

when media repeatedly cover one particular issue. As the above findings dealt with the traditional media agenda-setting effects, no research exists in previous agenda-setting studies regarding the time frame of on-line newsgroups and issue salience.

Direction of Causal Relationship between Media Agenda and Public Agenda:

With respect to the relationship between the media agenda and the public agenda, Ito (1993) believed that "mass media effects will not take place unless media stand on the majority side or the mainstream in the tripolar relationship among the mass media, the government and the masses" (p. 123). According to Behr and Iyengar's (1985) finding, the direction of causality between media coverage and public awareness of the issue was unidirectional, that is, media coverage on the issues had quite an impact on people's awareness of them. Beniger (1978) maintained that the public's attitudes and opinions may be more closely correlated with media coverage than with more objective social conditions. Indeed, Zhu et al. (1993) found that the public's issue priorities are much more influenced by media coverage than by social interaction.

Willnat and Zhu (1996) also provided evidence of one-sided newspaper coverage influencing public opinion about a governor's overall performance when they compared time-series data of public opinion polls with three leading newspapers in Hong Kong. To investigate the impact of press coverage on the general public's belief about HIV transmission, Hertog and Fan (1995) discovered a significant causal relationship from news contents to the public opinion, but not vice versa. From these findings, agenda-setting theory suggests to public relations professionals the importance of monitoring media coverage of issues that have grabbed public attention.

On the first level of agenda-setting theory, the researchers put much emphasis on what media say about different issues and then correlate it with how people rank the importance of those issues. The content of media is not examined in particular. Most studies focus on the amount of news coverage in the media versus public opinion about the examined issues. The public agenda is measured by surveying people's opinion, instead of actually analyzing *how* and *what* people say about the issues. The core concept of the first level agenda-setting theory is "where public opinion about an issue comes from" (Whitney & Becker, 1982; McCombs & Shaw, 1972; Wanta & Hu, 1994; Zucker, 1978).

Second Level Research

In addition to the original focus on issue salience transmitted from the media to the public's mind, agenda-setting theory studies have moved to the second level. How news stories are framed and issue attributes are presented play a central role in impacting the public's understanding of the issues (McCombs, 1997). On the second level, the researchers attempt to answer the question: "To what extent is the public's view of an issue shaped by the media that frame objects or attributes of the issue in different ways?"

To frame, as Entman (1993) explains, "*is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation and/or treatment recommendation for the item described*" (p. 52). Because all issues have different dimensions, they can be interpreted from all kinds of perspectives. Through selection and use of some attributes or objects of an issue, media can make some news prominent and transmit that prominent aspect to the audience's mind.

Given that the agenda-setting theory has progressed from counting numbers (media agenda) and ranking issues (public agenda) to analyzing and explaining the textual meanings of the media coverage, it can be assumed that the media are not only telling us *what* to think about (Cohen, 1975), but also tell us *how* to think about some objects or attributes of particular issues.

To understand the conceptualization of media frames and attributes, Ghanem (1997) breaks down four dimensions of media frames (p. 10):

1. The topic of a news item (what is included in the frame);
2. Presentation (size and placement);
3. Cognitive attributes (details of what is included in the frame);
4. Affective attributes (tone of the picture).

Although the idea of news framing is quite novel in recent years, McCombs (1997) provided some research studies confirming the effects of agenda-setting on the second level. In regard to issue framing, Takeshita and Mikami (1995) found a highly positive correlation between the salience of system-related aspects of reform on the public agenda and people's attentiveness to political news on both newspapers and television news. Maher (1995) showed a high correspondence in the relative salience of the attributes that defined the pictures of local environmental issues in the newspaper and among the public.

In earlier studies, Weaver, Graber, McCombs, and Eyal (1981) found a striking degree of correspondence between the agenda of attributes in the *Chicago Tribune* and the agenda of attributes in Illinois voters' descriptions of Jimmy Carter and Jerry Ford. The correspondence between the agenda of attributes in *Newsweek* and the agenda of

attributes in New York Democrats' descriptions of the contenders for the presidential nomination has also been reported by Becker and McCombs (1978).

Concerning candidate attributes framed in the news stories, King (1997) compared newspapers agenda on candidates for Taipei mayor with voters' images of three candidates and revealed six significant correlations ranged from 0.59 to 0.75. McCombs et al. (1998) studied the second-level effects of agenda setting in the Spanish election and found significant correspondence between various news and political advertising agendas and the pictures of the parliamentary and mayoral candidates in voters' minds. In that study, the strongest effects resulted from the affective correlations between news coverage and voters' affective description of candidates.

We have already seen how the media agenda directly affect the public agenda, but there is another aspect of the media that must also be considered: *paid advertising*. In addition to news stories and commentary contained within programs, the general public is often bombarded with advertising messages. For instance, to examine the effects of political advertising, Roberts (1997) found that political advertising in the 1990's Texas gubernatorial election campaign had great impact on media news items. Rank orders of the media agenda were correlated with the political advertising agenda at two time frames. The salience of candidates' image and political issues were also transmitted to the voters' mind and further influenced their voting decision. This two-step process of agenda-setting, as Roberts contended, reveals that candidates' paid political advertising can shift the priority of the media agenda as well as shape the public agenda. The agenda-setting process has gone beyond the influence on people's cognitive level to the behavioral outcomes.

The idea of the second level agenda-setting research sheds much light on how and what to examine in media effects on the direction of public opinion. The findings also set a new path to delve into the relationship between the media and the public agenda. Scholars focusing on the latter begin to look into the contexts of media in order to probe why public opinion is formed. To understand people's cognitive knowledge and affective reactions to the issues has broadened the explanatory domain of agenda-setting theory.

Although the contexts of the media agenda have been thoroughly examined in terms of the second level of agenda-setting theory, measurement of the public agenda still relies on the survey to understand how people's understanding of distinctive issues was influenced by the media news framing. The growing development and adoption of new communication technologies, which allow people to talk to each other interactively, provide another useful tool for media researchers or professionals to analyze the public agenda without directly surveying people.

The Internet: A Brief History, Functions, and Current Situation

The origin of the Internet can be traced back to 1969 when the first node was installed at UCLA in California for research purposes. At that time, the Internet was used only by scientists and government organizations. By December 1969, four nodes were connected on the early computer network, namely ARPANET. With the establishment of ARPANET, scientists and researchers could share one another's computer facilities at different places. Ironically, the main traffic on ARPANET was not long-distance computing. Instead, it was news and personal messages. Many researchers through ARPANET were collaborating on projects, trading work experiences, and even

exchanging some gossip. Throughout the 1970s, ARPANET was expanding at a fast pace.

Three decades later, the Internet has moved beyond its original functions for military and research institutions. and entered the world of public education as well as the commercial sectors. The Internet's pace of growth in the early 1990s is so rapid that currently there are tens of thousands of nodes on the Internet that extend to over 40 countries in the world, with more coming on-line every day. The primary attraction that the Internet has is that no official censorship has been implemented at least up until now. Nobody controls this so-called "Information Highway."

Generally, people make use of the Internet in the following areas: World Wide Web[1] (WWW) surfing, electronic mail (e-mail), the USENET, Telnet, Gopher searching, and file transfer.

To exchange information or ideas on the Internet, electronic bulletin board systems (BBS), mailing lists (Listserv), and moderated newsgroups (USENET), have been among the most popular electronic discussion groups for more than a decade.

Electronic bulletin boards function as a specialized medium and can be set up by inter-connecting personal computers for the purpose of serving the debate, association, and exchange function of that community (Thomsen, 1996). Thousands of people could contribute to an open discussion or an informal dialogue at a specific time on this system.

A Listserv is a program that maintains one or more of mailing lists. A listserv automatically distributes an e-mail message from one member of a list to all other

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[1] The World Wide Web is a protocol that allows users to easily make hypertext information available to other users.

members on that list. Listservs maintain thousands of lists in the form of digests, electronic journals, discussion groups and the like. In general, the topics discussed in the Listservs are more serious than those in the newsgroups and tend to be more focused on particular issues.

The USENET, also known as *newsgroups*, is a system where messages about any subject can be posted, and other people on the Internet can reply to them. These on-line discussion groups are a world of their own. Vast amounts of news information, debates and arguments involving miscellaneous topics are transmitted and posted among more than 5,000 discussion groups every day. The USENET also distributes various free electronic journals and publications.

Another unique characteristic of the USENET is that senders and receivers do not have to communicate with each other at the same time. Once posted on a newsgroup, the messages are distributed to other readers immediately and can be responded to at any time. Unlike the Listserv networks, the USENET has no central authority and each contribution is passed throughout the system of interconnected hosts-- systems that receive and pass along each contribution they receive.

Although the above three electronic discussion groups provide a relatively free environment for opinion or ideas exchange, informal but implicit rules of behavior called "netiquette" have always been required when one person attempts to post his or her message on the discussion groups. It is a user's duty to post the messages relevant to the topic issues of the appropriate discussion group without intentionally offending other participants. Nevertheless, due to the user's ability to conceal his or her identity in the computer-mediated communication, a user might post the messages with no factual

information or provide excessively critical comments. This form of message is called "*flaming*,"[2] which often generates a series of public posts in which people flame one another rather than contribute useful information. Hill and Hughes (1997) defined flaming messages as personal attacks, usually accompanied by profanity. In his article, Groper (1996) thought that flaming words or phrases are extreme criticism, sarcasm, cursing, exclamations, multiple question marks, emoticons like :-(, which connote anger, and block capital words. These socially undesirable acts mainly come from lack of standard rules in the electronic communication world, namely, the Internet (McLaughlin et al., 1995).

While radio took 30 years to reach an audience of 50 million, and television took 13, the Internet took just four years (Weise, 1998). In a recent report on its first major study of the economic impact of the Internet, the Commerce Department of the United States disclosed that "Net traffic is doubling every hundred days and electronic commerce should reach $300 billion by 2002. More than 100 million people are now on line...." (Weise, 1998).

How many users are surfing on the Internet today? According to a survey conducted by the RelevantKnowledge company in late February of 1998, the Web users in the United States have grown to 57,037,000, a growth of over 1.6 million users since the company's last study in January 1998. Jeff Levy, CEO of the RelevantKnowledge

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[2] A public post or email message that expresses a strong opinion or criticism. Flames can be fun when they allow people to vent their feelings, then return to the topic at hand. Others are simply insulting and can lead to flame wars.

company, attributes the growth to an increase in awareness of the Internet among the public in the United States.

The Challenge of Monitoring the Internet

As new technologies have changed life patterns in the past decades, the services provided by these new technologies have grown in number. Providing the users more control over the communication process, the interactive characteristics of the Internet have changed the conventional communication paradigm that only sources have ability and power to disseminate information. The communication capabilities of the Internet are too enormous to be ignored. On the Internet, the devices such as electronic mail, newsletters, and on-line discussion groups allow corporations around the world to promote products, get feedback or comments from customers, and respond to questions from a variety of publics. Similarly, the Internet has transfigured the arena in which the public relations professionals operate.

For instance, when an unexpected corporate crisis event occurs, a story containing inaccuracies about the crisis published on the electronic newspapers will stay on the Net and be retrieved and used by other journalists as well as most on-line users. The journalists can also obtain the first or longest story, correct or not, on any particular issue and re-distribute it to other news sources or readers. Given the potential of instant and interactive worldwide communication, the Internet can no longer be considered a secondary communication medium.

In Kalish's article appearing in the *Reuters North American Wire* (Feb. 13, 1997) on public relations firms handling the Internet, he remarked that public relations veterans

agreed that about the worst thing a company could do is ignore persons who badmouth them in cyberspace. Speaking of the advantages of the Internet for public relations, Strenski (1995) pointed out that "professional public relations communicators can choose from a blossoming array of cyberspace resources through which to channel their messages" (p. 33).

Issue tracking is an integral part of public relations work. Whether it is called issues management or crisis management, scanning the environment to seek public opinion trends should be a top priority. There are many ways to scan and monitor the evolution of issues. The most widely used method is the scanning of trade publications, books, scholarly journals and, most importantly, the news media. In addition, themes from popular entertainment such as movies, plays, novels and television shows should be evaluated as well since they are consumed by millions of persons.

Besides traditional ways of monitoring the external environment, the Internet offers another dynamic channel for public relations practitioners. One of the most popular functions utilized by on-line users is called *newsgroups*. Thousands of electronic forums have been established to exchange messages on countless issues or topics. The subscribers to each newsgroup can remain anonymous, if desired, when they express their own opinion. To explain the popularity of the newsgroups on the Internet, Berger (1995) believes that the popularity stems from the loss of credibility of traditional media by the general public. However, it is also recognized by most users that "much of the discussion is trivial, and that, more often than not, debate rapidly disintegrates into verbal assaults and idle banter" (Revah, 1995, p. 10). The dark side of the Internet is that "anyone can say anything to anybody at anytime," commented Don Middleberg, president of a public

relations firm (Kalish, 1997). As a result, some people are participating in a variety of newsgroups that damage companies' reputations.

To emphasize the importance of monitoring newsgroups discussion for references to the business corporations, Kalish cited the suggestion of Adam Cooper, creative manager at the Interactive Solutions Group of Edelman Public Relations Worldwide, stating that, "We find that the newsgroups are much more interactive than the web, so the newsgroups are really what we would consider the key place to listen to people" (*Reuters North American Wire*, Feb. 13, 1997). Two examples involving corporate crises on the Internet-related discussion bolster Cooper's viewpoint.

One example was the crisis pertinent to the introduction of Intel's new Pentium computer processor. The Intel organization discovered the Pentium flaw in the summer of 1994 but declined to acknowledge the problem publicly. By failing to recognize the importance of the message posted on a CompuServe[3] forum, Intel paid out over $450 million to replace the flawed chip. This is one example of ignoring the public's concerns about its own products, as well as its own image.

Another rumor-like incident occurred in November 1996 when people on the Internet labeled fashion designer Tommy Hilfiger a racist and called for a boycott of his products. In contrast to the Intel's reaction, the fashion designer Tommy Hilfiger paid attention to the offending Internet sites and responded by launching an e-mail campaign that assured minorities on the Internet that they were valued customers and that the racist rumors were totally groundless.

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[3] CompuServe has been one of major commercial on-line services in the United States for over fifteen years.

Learning from the above examples, it is obvious that an Internet-caused crisis can have profound influences on public opinion. On-line users can discuss any company in different newsgroups and detractors can design a web page full of factitious information about a specific company. These examples of business disruptions as a result of the Internet discussions and the resulting media coverage can be influenced by an organized group or a single individual operating in cyberspace. For whatever the reasons the situation arises, the "on-line crisis" has the potential to damage a corporate image and creates a corporate management problem for public relations practitioners.

The Internet Research

Is the Internet truly a mass medium? The answer is both yes and no. A properly constructed website can address thousands of audiences while still dealing one-on-one as an interactive medium. The more important issue is that these new websites must be monitored in additional to the traditional media such as television, radio, and newspapers. To what extent can the Internet be regarded as a mass medium? The Internet encompasses interpersonal conversation and mass distribution of messages and each message can reach a large audience. Morris and Ogan (1996) cited Valente's idea about the critical mass: "the critical mass is achieved when about 10 to 20 percent of the population has adopted the innovation. When this level has been reached, the innovation can be spread to the rest of the social system" (p. 45).

Before delving more into the impact of new communication technologies, it may be worthwhile to reevaluate the definition of mass media. Does the Internet play the role of an interactive medium? Rafaeli (1986) regarded this new type of communication

medium as similar to other media; however, it indeed integrates two interests in communication with the technological innovation of computer networking: "interpersonal conversation and mass propagation of messages" (p. 123). In Bucy's (1995) article discussing an objective measurement of interactivity, he suggested that the interactive event should not only activate an interpersonal conversation, but it has to be "a form of mass communication in which the sender broadcasts a message to a mass audience in the process of responding to an individual" (p. 6). Hiebert (1992) considered message transmission through a mass medium as an effective communication that elicits feedback from the audience.

Rafaeli's (1988) definition of interactivity based on the issue of responsiveness recognizes three pertinent levels: noninteractive communication sequences, quasi-interactive (reactive) communication, and fully interactive communication. The distinction between quasi- and full interactivity depends on the nature of the communication responses. In the fully interactive communication, sequential messages "depend upon the reaction in earlier transactions, as well as on the content exchanged" (p. 118-9). Deriving from Rafaeli's model, interactivity is "feedback that relates both to previous messages and to the way previous messages related to those preceding them" (p. 120).

Rafaeli and LaRose's (1993) study on electronic bulletin boards treated electronic bulletin boards as a kind of collaborative mass medium, "a new type of mass communications medium in which the audience acts both as the source and the receiver of the message" (p. 277). An interactive medium is a "many-to-many" communication channel unlike conventional mass media such as television, radio, and static print media,

which are a "one-to-mass" channel. Also, electronic bulletin boards represent an interactive medium that demands users' contribution as well as consumption.

Garramone, Harris, and Anderson (1986) explored the motivations for participation on a political bulletin board. They observed no statistically significant relationships between the use of BBS features and demographics or political partisan predispositions. Also in their study, surveillance was ranked as the number one motivation for BBS use, followed by curiosity, and knowledge of others' opinions. In his article defining electronic bulletin board users, Rafaeli (1986) concluded that the users of boards could be characterized as both a faithful and active audience.

To further probe the success of electronic bulletin board systems, Rafaeli et al. (1993) found that the diversity of board contents had positive impact on board users' contribution levels and small group size contributed to adoption level of the BBSs. After content analyzing public relations practitioners' use of an electronic newsgroup called PRForum[4], Thomsen (1996) distinguished three main functions in using the PRForum: exchange of information and advice, debate over issues affecting the profession, and cultivation of a sense of self-validation and enhanced efficacy both at a personal and professional level.

Among tools on the Internet that are influential in both public relations and advertising fields, Bobbitt (1995) recommended the USENET newsgroup as a public relations tool for both issues and audience research. Because study of issues and

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[4] As noted in Thomsen's article, PRForum, founded in 1993, is an online discussion group for public relations professionals. Updated in List search website (http://www.lsoft.com/lists/list_q.html), there were 1,224 people subscribing to this group as of May 13, 1998.

audience analysis is dependent on the credibility of the respondents, the researcher must assume that expressed opinions or comments are indeed truthful. Treating the USENET as a political discussion forum, Groper (1996) concluded that the political leadership did not exist in the three sampled newsgroups. No single participant in the newsgroups discussion was able to dominate the dialogues and provoke passion among his or her followers. Hill and Hughes (1997) analyzed messages in 22 political newsgroups and found that most political USENET groups exhibited the traditional characteristics of a socially cohesive group. The authors further argued that although these groups became a new form of political community for the purpose of political dialogue, it did not signalize any paradigm shift. Instead, "people are merely moving their age-old patterns of interaction into a new realm" (p. 25).

To what extent should the public relations people evaluate this new interactive medium, the Internet? According to a comprehensive demographic survey released in March of 1997 by CommerceNet and Nielsen Media Research, a large majority of Web users--73 percent--spent some portion of their time online searching for a specific product or service information. Given the growing popularity of the Internet, it is inevitable for public relations professionals to add the Internet to the list of communication channels.

As two-way communication turns the monologue into an interactive dialogue through the USENET discussion forums, the Internet offers a great opportunity to examine the public agenda which has become more interactive than ever before. Since the Internet discussion groups have the potential to galvanize public opinion in a matter of hours due to asynchronous and rapid communication, the dynamic attitudes of on-line

users in the discussion groups toward the corporation during the crisis time need to be investigated.

Even with many scholars and public relations practitioners emphasizing the importance of monitoring media coverage of and public reactions to the corporate crises, no formal study has yet been done to examine how people react to a corporate crisis on the USENET in contrast to the conventional news media coverage. After analysis of both media coverage and public discussion messages on the USENET, it would be of value to track how the interpretation of the crisis varies among the news media and on-line users over time.

From theoretical considerations, since the flow of public opinion is such an essential component of crisis communication management, the USENET on the Internet will function as an opinion forum to analyze the public agenda for not only public relations practitioners, but also the agenda-setting researchers. The contexts of the public conversations on the Internet can be further examined to test agenda-setting theory.

The next chapter will review the literature of crisis communication management and introduce a crisis public opinion model proposed by Sturges (1994) and MacKuen's (1990) model of public dialogue. At the end of the third chapter, research questions and hypotheses are presented.

CHAPTER III
CRISIS COMMUNICATION LITERATURE

Overview

In recent decades in American business, there has often been a tension between corporate public relations professionals and media journalists. When things are going well, public relations managers desperately want media coverage, but "good news" is seldom a high priority for people assigning reporters and writing headlines. However, during a business crisis, the news media appear far more inspired to investigate the issue. In these "damage control" situations, public relations managers must be aware totally of what is being printed and said in all media. Often this information is inaccurate or biased and the corporation must somehow correct the misconception and rehabilitate the corporation's public reputation (Birch, 1994; Traverso, 1992).

As with treating a spreading disease, early intervention is essential to successful treatment of a corporate crisis. Prevention of something detrimental to the organization remains a vital part of corporate public relations work. As no organization is exempt from a crisis, the art and science of crisis management is no longer an unusual specialty but an imperative job for public relations practitioners (Maggart, 1994). Rather than coping with a crisis after it has reached overwhelming proportions in the media, intelligent public relations professionals must learn to detect potential crises at the embryonic stage. Dealing with an emerging crisis before it reaches the mass public is the key to success.

Media play an essential role in helping people understand how the corporation reacts to the crisis. Media also provide public relations professionals with information as to how the general public feels about the crisis event, so the corporation can adopt appropriate management tactics to ameliorate the crisis situation.

Effective communication with key publics in the society is the purpose of public relations practice in a business corporation, especially when it encounters an unexpected crisis. Among all key publics, the media stand out as the most significant in the public relations field, because they disseminate information and serve as interpreters of social phenomena. However, the media do not operate in isolation. Public relations professionals can often affect the behavior of the mass media.

Not only should an organization pay attention to media coverage, which sometimes generates negative effects on the public agenda if no prompt action has been implemented by the corporations, but public perception of and opinion about the crisis must be evaluated. Because most people perceive truth to be whatever public opinion expresses at the crisis time, the essential purpose of crisis communications is to affect the atmosphere of public opinion, hoping that anything good about the organization will persist and bad connotations will soon disappear. Frequently asked questions in a crisis by a professional public relations person are: "Does the general public feel the same way as the media journalists?" and in terms of the perception of a crisis, "To what degree are people affected by media coverage of the crisis and the organization?" The assumption behind these questions posits that the general public is often influenced by the media coverage.

In recent years a number of new media technologies have made the public relations' goal of effectively reaching the general public more challenging. New technologies affect and change the way people communicate with each other. The most conspicuous distinction between old and new media is the control that new media venues offer users over the communication process. But this new control also raises new challenges and concerns for public relations practitioners, for they must broaden the boundaries of surveying media contents. The new challenges go beyond conventional media such as newspapers, radio and television and include new technologies where information receivers can also become information senders.

In view of the explosive development of communication technology, new message delivery systems such as cable and satellites offer dozens if not hundreds of programming options, each of which has the potential of carrying a message about a corporate crisis. While these message channels are almost always managed by established companies, a new media technology that does not require a large company infrastructure is the Internet. Given dollars and technical know-how, anyone can set up an Internet web page for people all over the world to read. Furthermore, these web pages can be interactive, meaning that individual users of a website can respond immediately to the message senders. Breaking the prevalent concept of source-oriented media, the Internet's greatest advantage is its interactivity between information providers and receivers. An audience member may become an active message producer, not just a passive receiver.

From the crisis management perspective, the Internet also offers an excellent opportunity for public relations professionals to gauge the impact of the crisis on the

corporation covered by the media and to monitor the public's reaction to it. The exchange between the media, public relations professionals, and the public is imperative for the modern corporation, especially in a crisis situation. By understanding these interactions, the Internet can function as a more useful tool for public relations practitioners.

When a corporate crisis occurs, the news media are tempted often to rely on information not only from conventional journalistic sources such as wire services but on information derived from the Internet websites (Birch, 1994). As a result, a company faces a new source of pressure from both on-line users and the journalists who might seek information related to the crisis through the Internet. As the Internet becomes another important area in the public relations field, crisis managers must take a much broader view of it as a potential problematic source.

Since monitoring of traditional media coverage about the corporate crisis has always been a fundamental part of crisis management in the public relations field, the advent of the Internet sets another path to understand the general public's opinion about the crisis.

Crisis Management Research and Public Opinion

Nothing is more challenging and unnerving to public relations professionals than the unpredictable crisis. A crises can cause a temporary disruption of activity with no long-lasting consequences to the bottom line or it can permanently damage a corporation's reputation, resulting in reduced profitability. Understanding properly how a crisis is contained and managed may in extreme cases determine the very survival of a business organization.

Definition of Crisis

What is a crisis? No universally accepted definition has been adopted, but in general, a crisis is a situation that threatens the normal activity of an organization. A crisis can proceed from a mere disruption of activity to damaging the corporate reputation and reducing profitability. Hayes (1985) believes that a crisis results from a major incongruence between the expectations of a corporation and what happens in the environment. Weick (1988) thinks that "crises are characterized by low probability/high consequence events that threaten the most fundamental goals of an organization" (p. 305). Dutton (1986) identifies three essential dimensions involved in a crisis in the study of the decision-making processes between crisis and non-crisis issues in an organization: *importance*, *immediacy* and *uncertainty*. Lerbinger (1997) treats a crisis as an event that endangers an organization's future profitability, growth, and even its survival. Fearn-Banks (1996) defines a crisis broadly as "... a major occurrence with a potentially negative outcome affecting an organization, company, or industry, as well as its publics..." (p. 1). The Institute for Crisis Management refers to crisis as *a significant business disruption, which results in extensive news media coverage and public scrutiny* (Irvine & Millar, 1996).

To sum up, a crisis can be something unexpected that occurs by surprise in any type of corporation (Woods, 1996); stems from the interaction of failures between the corporation and the external environment (D'Aveni et al., 1990); requires fast and accurate reaction to neutralize high threat to corporate values (González-Herrero & Pratt, 1995); creates uncertainty (Mitchell, 1986); threatens the reputation and assets of the

organization (Barton, 1993); and causes publics, especially media, to scrutinize the organization (Irvine & Millar, 1996).

Types of Crises

Although corporate crisis can occur suddenly without forewarning, it is wise to identify the types of crises when they take place in order to adopt the proper strategic plan. The Institute for Crisis Management puts the crisis into 16 categories and identifies three origins of crises, management, employees, and other (Irvine & Millar, 1996). The 16 categories are business catastrophe, environmental damage, consumer action, discrimination, financial damages, labor disputes, sexual harassment, white collar crime, casualty accident, class action suits, defects/recalls, executive dismissal, hostile takeover, mismanagement, whistle blowing, and workplace violence. Mitroff et al. (1996) categorizes 11 types of crisis which include: criminal attacks; economic attacks; loss of proprietary information; industrial disaster; natural disaster; equipment/plant malfunction; legal problem; perceptual/reputational; human resources/occupational; environmental/health; and regulatory. In her case study book, Kathleen Fearn-Banks (1996) lists the following five types of crisis: product tampering, environmental, natural disasters, violence, and celebrities and crises. According to Lerbinger (1997), there are seven crisis types: natural, technological, confrontation, malevolence, skewed management values, deception, and management misconduct.

Environmental Monitoring in Public Relations

Business crises put corporate reputations and economic survival to the test. Effective crisis communication planning not only results in good issue management but in favorable public perception of the corporation. One of Hearit's (1994) suggestions to

deal with crises was to diffuse hostility directed toward the corporation suffering from it. But as a potential crisis is evolving, how can companies keep track of how they are being portrayed and how can this information be intercepted before it reaches important stakeholders? In the public relations field, environment monitoring involves a long-term examination of media coverage before any issues related to the organization can transform into a crisis that will detrimentally impact the business. Needless to say, environment monitoring becomes an indispensable component of crisis management. From a synthesis of the literature emphasizing the importance of environmental monitoring in crisis management (Birch, 1994; Carney, 1993; Fombrun, 1996; Hayes, 1985; Umansky, 1993; Wilcox et al., 1992), several reasons for monitoring media coverage are identified:

1. The effectiveness of general issue management can be determined by analyzing the tone of media coverage;
2. The information obtained from the media content also helps public relations people examine public perception of an organization's response to a crisis;
3. Monitoring and analyzing media coverage help public relations practitioners audit the reputation of the organization;
4. Scrutinizing media coverage on issues provides public relations practitioners ideas about how to position an organization in front of publics and how to modify the strategies or tactics when handling a crisis.
5. Understanding media coverage is one part of formative research in the implementation of public relations strategies.

Public Opinion in Public Relations

Public opinion research has always been a vital topic across a diversity of social science fields such as political science, psychology, and mass communication. To understand public attitudes, polls are often employed as an efficient way of measuring the public agenda on major issues. Whether public opinion represents an aggregation of individual views or a collective movement remains debatable (Price, 1992).

Public opinion, more often than not, can determine what governments and corporations do when encountering the unexpected crisis. In a typical crisis situation, the public perceives "the truth" to be whatever public opinion says that it is. Public relations practitioners are responsible for surveying questions of public opinion. Therefore, it is vital for an organization to prove to its stakeholders that the prevailing negative public opinion is not accurate.

Public opinion can and must be shifted to the corporation's advantage if an organization desires to emerge from a crisis situation with a minimum of damage to its reputation. It is difficult enough to deal with a situation in which the corporation is indeed guilty, but even more frustrating is coping with bad information and false accusations. Looking back to past crisis events under various circumstances, many companies--such as Exxon, NASA, Denny's, and Intel--failed to communicate effectively with the general public, including their loyal customers, when they faced a crisis or pre-crisis situation. Conventional press conferences or general press statements may not subdue the anxieties of people who are directly influenced by a crisis. Corporations need to go directly to the public to gauge how well public relations efforts are working; this is where proactive tactics become essential.

Damage control is the key objective of crisis management. The more a public relations practitioner knows about how a crisis is being interpreted by the media and the general public, the more effective the damage control will be. The communication challenge is to convince various audiences of the company's ability to alleviate the damage, eliminate public doubts and position itself for future growth. The success of crisis management is evaluated by how effective the company affects the public opinion process.

Media and Crisis Management

The first lesson for a public relations practitioner to learn is that it is always better to deal with a potential crisis before it blooms into a real crisis. Without tracing and monitoring the shifts in public opinion, public relations programs become meaningless. Public relations practitioners cannot afford to operate in a vacuum. Accurate information concerning media messages and resultant public opinions is crucial for continued success. Among the research devices used to accomplish this task are personal contacts, content analysis of media coverage, field reports, and polling (Wilcox et al., 1992). Media play a crucial role in understanding public opinion trends on issues. Although the impact of mass media on attitude formation and change has proven to be less influential than some expected (Klapper, 1960), mass media still function as a primary resource for information about many topics. Therefore, it becomes impossible to ignore what mass media cover or say about an issue pertinent to an organization while simply probing public opinion.

Media impact on spreading a crisis is often time-dependent. It is better to control an issue in the early stage than wait until it becomes a crisis management issue. As recommended by Birch (1994), the use of tracking research, even daily in the early

stages, allows corporate management to know what the general public or key stakeholders are really thinking and saying. Permanent monitoring of active publics, getting continuous feedback through different channels from these publics, also facilitates issue tracking (Umansky, 1993; Vendrell, 1993). In summary, when dealing with an unexpected crisis, the two-way research, monitoring both the media and public agenda, is pivotal.

During a corporate crisis, communicating with the general public is very important. Crisis communication tends to evolve through three stages: mass media publicity, public opinion arousal, and then public policy makers' response (Mayer, 1991). Public opinion stems from the media issue coverage and then impacts government policy makers. At the initial phase of a crisis, an organization may have the power to influence events. After the crisis has received large amounts of attention from both media and the public, the ability of the company to control its public reputation diminishes. In her book on crisis management, Fearn-Banks (1996) terms "containment" as efforts exerted by the organization to limit the duration of the crisis or keep it from spreading to other areas affecting the organization.

An effective crisis communications plan must involve a sound media monitoring program to ensure accuracy of media coverage. Traverso (1992) urged that a media monitoring program is necessary when facing the crisis as media provide a fast channel to deliver information to the public. Situated in such a dynamic information era, Strenski (1995) pointed out that a key area in which public relations professionals must excel in crisis control is to take responsibility for monitoring the on-line services such as BBSs and all kinds of newsgroups that exist in cyberspace. He warned that ignoring these

groups is missing a major portion of the potential audience. Kotcher (1992) offered reasoning why new communication media must not be neglected by public relations practitioners. He states,

> Communicators can no longer operate under the old assumption that mass communication is passive in nature and that interactive, personal communication can only really occur in small groups or face-to-face. In addition, communicators should not assume their present understanding of technology and its applications would be sufficient at a time of crisis (p. 20).

Crises can start with rumors, which can be absolutely false or partly false without substantial verification and credible sources. In her ten guidelines for reducing legal risks in crisis management, Fitzpatrick (1995) stressed the urgent need to respond to rumors spreading all over the variety of information channels that may turn out to cause a long-term, sustained crisis for a company.

Sturges' Public Opinion Model of Crisis Management

Communication is an important tool in handling the impression of key stakeholders at the time of crisis (D'Aveni et al., 1990). Sturges (1994) emphasizes the value of communication during the crisis to the publics. The crisis does not happen in isolation so the communication plan should consider how public opinion, interacting with other social events and environment, is formed before, during and after the crisis. He illustrates the evolution of group opinion through an eight-step process as shown in Figure 3-1.

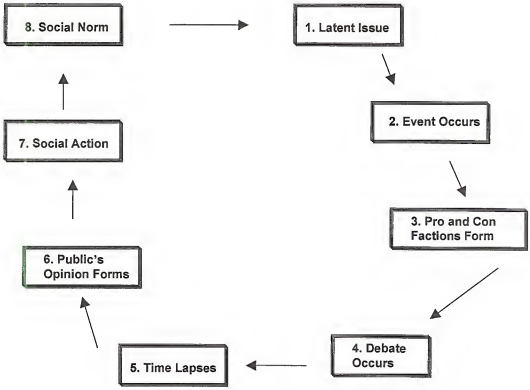

FIGURE 3-1. Group opinion formation process

In the first stage, an issue must be salient but latent for the public members. As public awareness is the necessary condition in the formulation of public opinion, an event occurs and comes into people's mind in the next step after they become aware of that event. Then the pro and con factions among the members solidify in the third stage, followed by public debate among the members (step 4). After a time lapse occurs (step 5), when enough has been said and done, public opinion thus emerges in step 6. In step 7, some action will be used to reinforce the public opinion formed in the previous step. Finally, due to the performance of action, a social norm is going to be established.

Sturges applies this concept of opinion formation to the direction of public opinion in the crisis situation as illustrated in Figure 3-2. The public opinion, either negative or positive, expands as the crisis erupts and fades away while the crisis abates and ends. Therefore, the objective of crisis communication is "to influence the public opinion development to the point that opinions held in the post-crisis period are at the same level or greater in positive opinions or lower in negative opinion" (p. 303) among the members of the public.

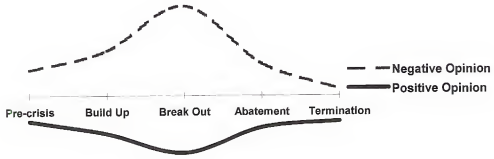

FIGURE 3-2. Sturges' model of public opinion with crisis management plan

MacKuen's Strategy Model of Public Dialogue

Regardless of the form (face-to-face, electronic bulletin boards, newsgroups, etc.) one chooses to take part in the political conversation, MacKuen's (1990) discussion about personal strategies in the public dialogue to promote deliberative democracy is employed to examine how on-line users get involved in the discussion groups. The basic idea behind MacKuen's strategy model for public dialogue is that deliberative democracy is a function of political participants who interact with one another. These interactions set the political and intellectual contexts for democratic decisions and may take two forms. One

occurs between those who hold similar views and another stems from individuals of different views. However, only the latter allows genuine debate and an exchange of ideas. As a result, the conversation which each individual creates becomes crucial in shaping public opinion and then develops into deliberative democracy.

Regarding engagement in political discourse, MacKuen holds that one's willingness to engage in public discourse depends "not only on how much one enjoys discussion or hates controversy, but also on the likelihood of running into sympathetic and contrary viewpoints" (p. 61). Individuals can actively choose when and where to participate without passively getting involved. Four strategies will affect the outcome of interactive political conversations: TALK, CLAM, REACT, and SIGNAL. Either social consensus or disagreement comes from different strategies that people employ when encountering the political discussion. Similarly, the outward environment would play a role in determining what strategy individuals may use while becoming involved in the political dialogue.

MacKuen uses *Expressivity* (p. 64), the ratio of pleasure from rewarding conversation to pain of disagreements, to depict how an individual feels about the conversation and his or her own tolerance of opposing viewpoints. It also represents a positive incentive to engage in the political conversation. Low levels of *Expressivity* require friendly environments to make conversation worthwhile. By contrast, high levels of *Expressivity* render political conversation attractive even when facing opposing majorities.

Applications of Four Types of Strategies

The outcome of use of TALK/CLAM strategies in the political dialogue is shown in Table 3-1 and 3-2.

TABLE 3-1.

Payoff matrix for player encountering friend

		Friend's Strategy	
		TALK	CLAM
Player's Strategy	TALK	Reinforcement	Bluster
	CLAM	Music	Pass

TABLE 3-2.

Payoff matrix for player encountering friend

		Friend's Strategy		
		TALK	REACT	CLAM
	TALK	Reinforcement	Reinforcement	Bluster
Player's Strategy	REACT	Reinforcement	Pass	Pass
	CLAM	Music	Pass	Pass

As seen in Table 3-1, the conversation that reinforces democratic dialogue between two parties who reward self-expression, willingness to speak out, happens only if both individuals choose TALK strategy. By the same token, if both individuals choose CLAM strategy, a nonpolitical conversation (Pass) will follow. The theme in this matrix of employment of both strategies is that all outcomes but *Reinforcement* and *Disagreement* result in little or temporary value through the interactive conversation.

Other than the aforementioned two strategies, an individual might opt for the third one--- REACT.

As shown in Table 3-2, the unique advantage of this strategy is to avoid disagreements when both player and friend adopt either TALK or REACT strategy in the conversation. However, it also limits the attractiveness of the TALK option if an opponent is involved. By using this strategy, a person can cheerfully respond to friendly TALKERS and remaining silent before opposing viewpoints. The REACTOR never initiates a political conversation, but simply follows the partners, with whom she or he agrees. As the number of TALKing friends increases, the attractiveness of REACT will also increase likewise.

The last strategy MacKuen mentions is called SIGNAL. The consequence of signaling for individual choice produces a community of isolated groups and eliminates meaningful public dialogue. So to speak, signaling not only prevents a consideration of alternative views, but also generates a consistency of opinions around the symbols embodied in the signal itself (p. 82).

Because the level of *Expressivity* in the public environment determines an individual's willingness to engage in the political dialogue, MacKuen's integrated

TALK/CLAM/REACT/SIGNAL models provide an insightful understanding about how a person would contribute to the meaningful dialogues in any public discussion forum. For instance, employment of the TALK/CLAM strategies is most likely to generate a democratic dialogue; on the other hand, use of REACT/SIGNAL strategies will help to frame a friendly interactive discussion environment without disagreement.

Research Questions

Studies on crisis or issue management have created stages or life cycles from the emergence to the termination of a crisis (Fearn-Banks, 1996; Gaunt et al., 1995; González-Herrero et al., 1995; Hainsworth, 1990; Meng, 1992). With the opinions identified as positive or negative or combination of both, people tend to react positively to good news and negatively to bad news (Sigelman et al., 1993). Based upon Sturges' (1994) public opinion formation model during crisis, negative public opinion about the corporation at the breakout of the crisis reaches its highest point and then ebbs to the pre-crisis stage after the crisis.

As Sturges demonstrates earlier in Figure 3-2, it is anticipated that the highest number of negative messages about an organization will be posted as the crisis erupts, following the initial media coverage.

1. How will public opinion on an interactive communication channel, such as the Internet, differ from Sturges' model on public opinion during a crisis?

As commercial providers increase on the Internet and more political information is provided, the problem of who sets the agenda for the new medium also becomes a concern. Behr et al. (1985) maintained that public concerns about energy and inflation were determined by television coverage, which in turn was dependent upon world

conditions. By comparing the contents of three local and regional daily newspapers with the results surveying three waves of respondents drawn from the same study population across eight months, Salwen (1988) detected a strong influence of media coverage on environmental issues on the public agenda in the first and second wave. Despite time-varying effects for agenda-setting, the direction of influence has traditionally been from the media to the public.

2. Will this unidirectional influence from the media to the public hold when the interactive public agenda is examined?

Famous public relations crisis cases such as the Intel Pentium flaw, the Pepsi syringes tampering, and the Nike discrimination against Islam suggested the importance of a quick and proper reaction to the potential crisis issue, whether it is only a rumor or not. Communication with the target publics during the crisis becomes a top priority task for public relations professionals; hence, preparation of complete crisis management planning should be highly stressed (Barton, 1993; Mitroff, 1996).

3. To what degree is the frequency of on-line dialogues on the USENET affected by an organization's strategic crisis intervention?

MacKuen (1990) demonstrates that people who feel high levels of *Expressivity* will more likely adopt a TALK strategy than those who do not. Although CLAM is one of the strategies used by individuals to engage in the public dialogue, it is impossible to detect who remains silent by adopting this strategy in the newsgroups discussion. CLAM users are regarded as those who read the messages without posting their own opinions on the newsgroups.

4. How will the frequency and tone of on-line dialogues on the USENET posted by TALKERS and REACTORS vary in the light of MacKuen's strategy model?

Research Hypotheses

Given that the Internet provides public relations professionals access to listening to what people really think and say about the crisis or the targeted corporation on the USENET, hypotheses in this study stress the change of number of on-line discussion messages before, during and after the corporate crisis. Analysis of these messages will also help advance the measurement of the public agenda in agenda-setting theory.

Sturges (1994) divides the time span during the crisis into several stages, that is, pre-crisis, build-up, break out, abatement, and termination. He asserts that both negative and positive opinions about the organization from the public will increase when the crisis breaks out. To compare the difference in the number of on-line messages before and after the crisis erupts, ten days will be used as a time frame to test the following hypothesis:

Hypothesis 1: The average number of daily USENET dialogues regarding the corporation will be greater during the ten days following the eruption of the crisis than the average number of daily on-line dialogues within ten days before the crisis.

Also illustrated in Sturges' model is that public negative opinion will comparatively increase more than public positive opinion since the crisis can have negative impact on the society as well as the general public. Therefore, by using all the sampling days after the crisis eruption as a time frame, a second hypothesis is formed.

Hypothesis 2: The average number of daily negative USENET dialogues will be greater than the average number of daily positive USENET dialogues after the eruption of the crisis.

Numerous agenda-setting studies lead to a common conclusion that news media coverage of an issue has considerable impact on the public agenda. Concerning the first level of agenda-setting theory, the more media coverage of an issue, the more salient that issue will become in people's minds. The next hypothesis is hence made based upon the agenda-setting concept as displayed in Figure 3-3.

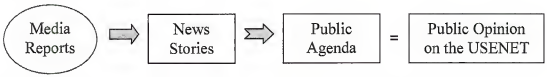

FIGURE 3-3. Causal relationship between the media agenda and the public agenda

Hypothesis 3: The daily number of the USENET dialogues will be related to the daily number of news stories about a crisis after its eruption.

In Sturges' model, to move to the abatement stage where the amount of public negative opinion sharply decreases from the breakout stage, the corporation must employ proper strategies to contain the crisis spreading. To test if change in the amount of public negative on-line dialogues does occur after the company adopts the intervention strategies, the following hypothesis is formed.

Hypothesis 4: The average number of daily negative USENET dialogues following a crisis intervention strategy will be less than the negative USENET dialogues prior to the intervention.

Derived from the above hypothetical assumption, it is expected that the intervention strategies will have positive influences on people's opinion about the corporation. In Sturges' model, the amount of public positive opinion about the company remains similar at both pre-crisis and abatement stages, so the next hypothesis will be as follows:

Hypothesis 5: Following a crisis intervention strategy, the average number of daily positive on-line dialogues on the USENET concerning the company will be equal to the average number of daily positive on-line dialogues before the crisis eruption.

After the intervention strategies, amount of both negative and positive opinion from the public decreases in comparison with those when the crisis erupts according to Sturges' model. Thus, the hypothesis is developed as follows:

Hypothesis 6: The number of the USENET dialogues following a crisis intervention will be less than the number of the USENET dialogues before the intervention and after the crisis.

No study has applied MacKuen's strategy model of public dialogue to the on-line users who express their opinion on the USENET. As TALKERS are inclined to express their own opinion to initiate the public dialogue or disagree with other people, the next hypothesis is suggested to test how both TALKERS and REACTORS voice their opinion about the company after a crisis happens.

Hypothesis 7: The number of daily negative USENET dialogues posted by TALKERS will be greater than that by REACTORS.

The concept and findings of the second-level agenda-setting research indicate that content of media coverage of the corporate crisis can greatly affect the public opinion.

By using computer software to analyze the tone of media coverage, the hypothesis is formed to test the relationship between the tone of the media agenda and the public on-line dialogues.

Hypothesis 8: The Optimism Score of media messages will be positively related to the number of negatively toned USENET messages posted after the media stories were released.

The next chapter will describe in detail the method used to test the hypotheses and to answer the research questions.

CHAPTER IV
METHODOLOGY

Overview

To test the agenda-setting theory, most researchers have traditionally used content analysis to examine the media agenda and public opinion surveys to examine the public agenda. All studies investigating the media content have focused on the conventional media such as television, magazines, newspapers, and radio. However, the Internet has quickly evolved into another important communication medium not only as a corporate communications tool but as a forum for public opinion. People have become more active and willing to get on the Net to express their attitudes toward or opinion about particular issues or persons. The Internet hence provides public relations professionals another opportunity to understand the trend of public opinion about their own organization at times of crisis. To better explore public opinion on the USENET, this study will employ content analysis to analyze the on-line public dialogues as well as the media coverage of the selected corporate crises.

This chapter will first briefly state the definition and functions of content analysis, followed by detailed descriptions of how to select crisis cases, news media, and public dialogues on the USENET. Following the listing of coding categories, both conceptual and operational definitions of key terms stated in the hypotheses are provided. Then, all independent and dependent variables are identified with an intercoder reliability check in

the next section. The final section introduces of a computer software called *DICTION* for the purpose of testing the last hypothesis.

Description of Content Analysis

The most popular and frequently cited definition of content analysis is offered by Berelson (1952), "Content analysis is a research technique for the objective, systematic, and quantitative description of the manifest content of communication" (p. 18). Krippendorff (1980) also defines content analysis as *a research technique for making replicable and valid inferences from data to their context.* The inferences involve the sender, receiver of the message, the message itself, as well as the communication channels. This unobtrusive quantitative measure of texts serves many purposes such as identification of intentions of the communicators, understanding of attitudinal and behavioral responses to communications, and description of trends in communication content (Webber, 1990).

Corporate Crisis Selection

This study is intended to predict the trend of public dialogues on the USENET about corporate crises. The impact of news media coverage and the company's intervention strategy will be integrated into the model. Two examples of the same type of crisis will be randomly selected. The first crisis will be analyzed and used to modify the coding categories and to improve the ways of retrieving a sufficient number of media stories and on-line discussion messages.

For the purposes of generalizability of findings and to understand the influences of the crisis in the on-line USENET dialogues, product tampering was selected as the target crisis. Fearn-Banks (1996) considers product tampering crises as a result of claims

made against manufacturers' products. After analyzing news stories about 16 types of business crisis, Irvine and Millar (1996) found that crises of *defects & recalls* of products has increased 41 percent between 1994 and 1995. Because product tampering has the public safety and health at high risk, Lerbinger (1997) classifies it as a crisis of malevolence, which often necessitates product recalls. Past examples include Johnson & Johnson's Tylenol murders in 1982, Gerber's product tampering in 1986, Perrier's recalling of water bottles in 1990, and Pepsi's syringe threat in 1993.

The time period from which the two crisis cases were selected was from March, 1995 to December, 1997. The crisis event was chosen for study because it met the conditions that are pre-defined in the latter part of this chapter.

News Coverage Analysis

A corporate crisis has emerged when the news media report an issue in a negative or adversary tone. Content analysis of crisis coverage by the media has usually been used to guide an organization's reaction or responses to handling the crisis and to measure how the general public perceives the organization. Continuing coverage by the mass media may serve to help comprehend the agenda-setting effects on the crisis and delineate a crisis development model. Research on testing agenda-setting hypotheses has traditionally focused on impact over time, which required at least two weeks to six months to discover the power of media setting the public agenda (Eaton, 1989; Funkhouser, 1973; Mullins, 1977; Salwen, 1988; Shoemaker et al., 1989; Sohn, 1978; Stone & McCombs, 1981; Wanta & Hu, 1994; Winter et al., 1981).

With the considerable number of public dialogues on the USENET, the time frame for analysis of media coverage is six weeks, 10 days before occurrence of a crisis

and 32 days following the crisis eruption. Although on-line discussion may or may not end one month after occurrence of the crisis, the random error becomes larger as more days of messages are retrieved when applying statistical analysis to test the effects of news media coverage in relation to the number of on-line dialogues.

The on-line Lexis/Nexis data base served as a foundation of media news coverage. The keywords for searching news articles in the Lexis/Nexis data base varied depending on each crisis.

Media Selection for Analysis of News Stories

Television provides political information to most citizens in Western industrial societies and has become the most credible source of information (Brosius & Kepplinger, 1990). Zucker (1978) maintained that at the national level the public may be more influenced by the three networks' newscasts than by newspapers because of television's accessibility. Shaw and McCombs (1977) argued that television news might have a stronger short-term impact, however, newspaper content may have a more consistent effect across longer periods of time.

The Lexis/Nexis data base was selected for capturing news media coverage. The Lexis/Nexis contains both newspaper and television news transcripts that have national circulation and audiences. The media chosen as a part of sampling frame included three television news networks, and three elite nationally known newspapers. They were: the *CNN* news, the *ABC* news, the *NBC* news, the *New York Times*, the *Wall Street Journal*, the *Washington Post*. Because the *CBS* news transcripts are currently not in the Lexis/Nexis data base, the *CNN* news, the *ABC* news, and the *NBC* news were selected for the analysis of television network news analysis. The *New York Times* was chosen for

the study because, besides having a national circulation, it is thought to have an agenda-setting effect on smaller media that could be seen in survey data of a cross section of the population. The *New York Times* was shown to set the agenda for the television networks when the cocaine issue coverage was examined (Reese & Danielian, 1989). The *Wall Street Journal*, a business-oriented national as well as international newspaper, devotes considerable coverage to news about major corporations. Because news magazines were not found to contribute as strong agenda-setting effects as newspapers and television (Shoemaker, 1989), this type of media was not included in the analysis.

On-line Discussion Message Analysis

In addition to crisis coverage by the six news sources, on-line dialogues will also be content analyzed. There are three advantages in using the unmodified USENET discussion groups to study political behavior in cyberspace (Groper, 1996): these newsgroups are simple to access, posts to them are free of charge, and messages in the USENET groups can be downloaded instantly from the Internet without subscribing to the groups. In contrast, both Listservs and BBSs make it difficult to download data without subscribing to the group itself.

The time frame for downloading the messages from on-line newsgroups was the same as sampling media news coverage, that is, 10 days before and 32 days after the crisis eruption. A search engine called *Deja News*[1] on the Internet (See its homepage in

[1] The Deja News Inc., founded in May, 1995, is the first company to organize and provide easy access to discussion groups. As of now, the company's (http://www.dejanews.com) archives are extended back to March, 1995 and has about 138 million articles appearing in over 20,000 newsgroups, accounting for more than 180 gigabytes of disk space. Similar to the use of Lexis/Nexis data base, input of keywords

Appendix A.) was adopted to facilitate the message downloading. To have enough but not too many redundant on-line discussion messages about the targeted corporation, the keywords used the Deja News search engine were slightly different from those used in the Lexis/Nexis data base.

Unit of Analysis

The unit of analysis is the single message by one reader regardless of its length within each thread pooled from the Deja News search engine. Every sampled message was coded for the manifest content with the assistance of pre-defined categories. Although a thread has to include at least two response messages besides the original subject message, based upon the concept of "responsive interactivity" proposed by Rafaeli (1988), this study still retrieved and analyzed any single message under a thread as long as it was related to the crisis event. In addition, the same message that was posted to different newsgroups or on different days by the same on-line user was singled out and counted once only.

Threads across newsgroups from the Deja News data base were retrieved for analysis. Not all news stories were retrieved. For instance, a newsgroup called "biz.clarinet.webnews" often posts the news stories directly from other media sources, so this type of message was ignored. Nevertheless, if the news stories were cited or posted by a self-identified on-line user who did not express any personal opinion, those messages would be sampled. Some messages containing several segments were read and treated as one single message.

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will automatically display messages related to the topic interesting to the users. The articles on the USENET can go back as far as 1979.

Steps to Download On-line Messages

Because on-line messages of 42-day duration would be downloaded for analysis, the efficient way is to use the "*power search*" method in the Deja News search engine (See Appendix B), which enables a user to specify a time frame without worrying about having too many messages beyond the particular time span of 42 days. The following describes how to search for the messages in the Deja News search engine step by step:

1. Type in the key words in the "Search for:" blank row;
2. Use "threaded" as the results format and sorted by "Date.";
3. Leave "Group(s)", "Author(s)", and "Subject(s)" blank;
4. Specify the beginning and ending date in "Date from:" and "To:" blank rows;
5. Click on "Find" button.

After the search results showed on the screen, every message was downloaded for further analysis. While downloading all pertinent messages based on above-mentioned criteria, the researcher has also clicked on "view thread" within the listed message to see exactly how many messages had been posted under that threaded topic. Then, every single message under that threaded topic was examined to ensure that all messages relevant to the crisis had been downloaded.

The reason for examining each single message under one thread is because the content of on-line discussion is often diverted to other topics that can be totally irrelevant to the crisis event or the involved company. Without careful inspection of each message, the number of on-line messages can be erroneously expanded, thus threatening the content validity of the study. Another rationale is that some on-line users may mention or

discuss the crisis as responding to other users' messages without mentioning any keywords that are used to search for crisis-related messages.

Definitions of Coding Categories

The categories of discussion messages needed to be defined in order to compare the progress of media coverage on the corporate crisis. Stempel III (1989) suggested that it is efficient to use an established category system that had been found functional and manageable by other researchers. Although a large number of articles emphasize how crucial evaluation of public reaction to the crisis is, specific definitions of positive or negative public reaction are unavailable. Since no preset categories related to this study were available for the on-line message analysis, the researcher synthesized various articles dealing with either the public reaction to a crisis or corporate planning for crisis cases (Birch, 1994; Carney et al., 1993; Fearn-Banks, 1996; Fitzpatrick, 1995; González-Herrero et al., 1995; Hearit, 1994; Lerbinger, 1997; Mitroff, 1996; Stanton, 1995; Thomsen, 1996; Traverso, 1992; Wilcox et al., 1992; Woods, 1996).

As noted in the second chapter, it is not unusual to receive so-called "flaming" messages from the newsgroups discussions (Bucy, 1995); therefore, the flaming messages were also coded. Coding categories were tested and re-tested for reliability. When training the coders for reliability, the researcher modified the coding items, if necessary, to make them mutually exclusive and exhaustive and create a common frame of reference between coders and the researcher. When a negative or positive message involved more than one item listed below, it was coded as one single number for that category. For example, if one negative message mentioned the adoption of legal action

and boycott of the product or service, this message would be coded as "1", which indicates a negative message. This rule was also applied to positive messages.

The coding schemes for news stories and on-line messages are shown in Appendix C and Appendix D.

1. Negative posted messages will be coded as those that

a) request legal action against the company,

b) request compensation from the company,

c) mention of personal or others' experiences suffering from the crisis event,

d) urge the boycott of the company's product or service,

e) give sarcastic jokes or harsh comments about the company, or

f) blame or accuse the company for its wrongdoing or its defective product(s).

2. Positive posted messages will be coded as those that

a) urge end of a boycott,

b) compliment the company,

c) mention the laws as unfair to the organization,

d) praise company's intervening actions, or

e) deny that the crisis event is solely due to the company.

3. Neutral posted messages will be coded as those including

a) forwarded media reports without expressing opinion,

b) forwarded website information without expressing opinion,

c) personal questions or responses to others' messages without expressing any opinions, or

d) statements that take the crisis issue for granted without blaming or praising the company.

Conceptual Definitions

In the following two sections, some special terms stated in the hypotheses are defined both conceptually and operationally along with concise reviews of previous studies germane to the terms.

On-line Dialogues on the USENET

The idea of dialogue has been extended to apply to the messages on the computer-mediated communication channels, such as the USENET, BBS, and e-mail system. As far as messages on the USENET are concerned, MacKinnon (1992) points out that these newsgroup postings have the quality of spontaneity and are uncensored, functioning more like true dialogues. Unlike traditional conversation in the real world, the feelings expressed in the postings are not mirrored either physically or symbolically, and the dialogue is "absent from physical proximity, face-to-face interaction, and nonverbal cues" (p. 114). Morris and Ogan (1996) regard the USENET as a many-to-many asynchronous communication. So to speak, two or more on-line users communicating with each other do not have to be on-line at the same time. Each could leave messages to others and retrieve replies at his or her convenience (Groper, 1996). To contrast with dialogic communication mainly applied to interpersonal communication, Thomsen (1996) cited Ball-Rokeach and Reardon's concept of "telelogic communication" for the analysis of bulletin board systems. According to Ball-Rokeach

and Reardon (1988), telelogic communication "involves alternating dialogue between people at a distance who use both conventional and unconventional language and electronic or optical channels" (p. 135). This type of communication is often geographically and temporally unbounded. Bucy (1995) considers mediated exchanges of messages as a form of mass communication in which the sender broadcasts a message to a mass audience in the process of responding to an individual.

All messages on the USENET have a subject heading and those which carry the same subject line are called a "thread." Hill and Hughes (1997) define thread as responses to the original message, or to something said in someone else's reply. Once a thread has been started though, it is no longer under the sender's control.

For this study, on-line dialogues on the USENET are defined as---

> Multiple messages about the same subject matter, with a single sender to a group not in the same physical space which was formed because of its interest in the subject matter, who can respond immediately to the message and who can direct that response to the entire group.

A message is considered to be the total written materials contained in the text. This includes all words, sentences, phrases and paragraphs. The subject matter in the multiple messages refers to the discussion topic of one single thread. A thread is defined as messages responding to the original message or to other messages under the same discussion topic.

Crisis

The media coverage of a corporate crisis provides people most information about the crisis event itself and, thus, shapes the public's perception of the organization. Aiming to examine the relationship between the media coverage of the crisis and on-line

public opinion about it, a crisis in this study is defined as similar to that by Irvine and Millar (1996)---

> A significant business disruption, which negatively impacts its stakeholders, such as employees, stockholders, customers, or community members and results in extensive news media coverage and public scrutiny.

Crisis Intervention

Crisis communication results from a need to offset potential negative consequences of not communicating (Sturges, 1994). Hearit (1994) suggests that to intervene in the crisis is to diffuse hostility directed toward the corporation suffering from it. Resembling the idea of crisis intervention, Fearn-Banks (1996) uses "containment" to refer to "the effort to limit the duration of the crisis or keep it from spreading to other areas affecting the corporation" (p. 7). Lerbinger (1997) regards crisis intervention as an action that helps remove ambiguity during a crisis and improves the understanding of the public and the media.

For this study, crisis intervention is defined as---

> When the organization acts strategically to reduce the negative impact of the crisis on stakeholders after the occurrence of the crisis.

Operational Definitions

The operational definitions of key terms are listed as follows:

- On-line Dialogues on the USENET: "number of messages from different individuals within one subject thread." Here the thread is defined as messages responding to the original message or to other messages under the same discussion topic or subject.

- Crisis: "the events that
    - negatively impact the target subjects, e.g.: the general public, customers, and employees,
    - are covered by both a national elite newspaper and a national television network,
    - continue to be reported by major national news media for at least a one-week duration and covered by some news sources for a total of seven days during the month, and
    - are discussed by an Internet newsgroup periodically for at least two weeks since the initial news media coverage."

The crisis is considered to have erupted on the first day that any of the selected news media reported the crisis event.

- Corporate Crisis Interventions: "the actions that the corporation adopts after the media coverage of the negative event and which are intended to reduce the damage caused by the media coverage."

The following would be coded as crisis interventions:

1. evacuation of employees or particular publics involved in the crisis for the sake of safety,
2. hosting a news conference to admit or disclose happening of the crisis,
3. setting up hot lines to answer requests from media and publics,
4. provision of medical services to injured or dead people,
5. preparation for negotiation with interest groups or specific publics concerning the crisis,

6. product recalls or destruction,
7. decision to enforce laws to combat the crisis,
8. offer of monetary or product compensation,
9. making a public apology,
10. acknowledgement of wrongdoing,
11. replacement of persons who caused the crisis, or
12. promise to prevent a similar crisis in the future.

- TALKER: "the on-line users who either respond to without expressing agreement, or express different opinions, or initiate the subject message within one thread."
- REACTOR: "the on-line users who express their agreement to the initial message or merely reply to other users without voicing their opinions about others' statements."

Independent and Dependent Variables

Four independent variables and two dependent variables are included in this study. The number of news stories covered by the media about the crisis event is the first independent variable. The second independent variable is considered the eruption of a crisis. The contents of selected media will be analyzed to determine when the crisis occurs. The first day that any one of the media reports the crisis event is going to be *the day of the crisis eruption*. As the primary purpose of the crisis intervention is to alleviate the damage done by that crisis to the corporation, how a corporation manages the crisis intervention becomes indispensable in changing or reducing negative public opinion about the company. The third independent variable is the direct action(s) taken by the corporation during the crisis period. The last independent variable is the number of on-line messages posted by both TALKERS and REACTORS.

Since the number of negative as well as positive on-line dialogues on the USENET is the main item examined in the hypotheses, which presumably varies with the other variables, the number of negative and positive on-line dialogues on the USENET become the two dependent variables.

Reliability Test

In regard to content analysis, reliability is the fundamental requirement for yielding similar results with the same instrument on a given data sample. Intercoder reliability represents the consistency of shared understandings or meanings held by coders. Weber (1990) urged that this type of reliability be a minimum standard for content analysis.

To test the intercoder reliability, 20 messages randomly selected from the first case were given to two coders, who are native English speakers. They were instructed in detail on how to code a nominal variable--tone of message. New items suggested by the coders were added to the coding scheme.

Although there is no agreement on a minimum intercoder reliability coefficient, most content analysts suggest that the researcher should look at whether or not the extent of agreement exceeds chance (Stempel III, 1989). Krippendorff (1980) found that an agreement correlation of less than 0.7 tended to be statistically insignificant and that 90 percent of agreement is not plausible in most cases. For this study, the pre-test intercoder reliability coefficient was expected to reach at least 80 percent before the researcher started to code messages in the second case.

According to Scott's (1955) formula, reliability reached 0.76; that is, both coders had consistent agreements on 16 out of 20 messages in the same category. Because they

added some reasons why they coded the negative tone of messages, two more items were added to the negative tone category. As a result, both coders were given the modified coding scheme to re-code another 20 messages from the second case. The reliability this time improved to 0.82.

Introduction of Computer Software: DICTION

In order to test the eighth hypothesis that *the Optimism Score of media messages will be positively related to the number of negatively toned USENET messages posted after the media stories were released*, a computer software, DICTION, designed by Hart (1997) for textual analysis was employed to calculate the number of negative words appearing in each news story.

After selected articles are analyzed, this textual analysis program will calculate scores of five "Master Variables": Certainty, Optimism, Activity, Realism, and Commonality. Every "Master Variable" score has its own formula. Take "Optimism" as an example. The definition of the Optimism Score is "language endorsing or highlighting the positive entailments of some person, group, concept, or event" (Hart, 1997, p. 46). The formula for this variable is (Praise + Satisfaction + Inspiration) - (Blame + Hardship + Denial). Terms of *Praise*, *Satisfaction*, *Inspiration*, *Blame*, *Hardship*, and *Denial* are consisted of different words stored in the dictionaries in the software.

To see to what degree a news story covered the crisis event in a negative tone, the Optimism Score was used. However, to simplify the formula, only numbers of words representing above six terms were put into the formula, instead of the standardized score displayed in the report file (See Appendix E). Once the Optimism Score for each news

story was obtained, it was compared with the number of daily negative USENET messages to test hypothesis 8.

The next chapter will first present descriptive analysis. Then, description of each crisis case along with results of downloading media stories and USENET messages is provided, followed by the discussion of outcomes of hypotheses testing. Post-hoc analysis will end the chapter.

CHAPTER V
RESULTS

Two corporate crises were selected for testing the hypotheses. The first case is "Mattel Cabbage Patch Doll Defect," which occurred at the end of 1996. The second crisis case, "Hudson Foods Meat Contamination," happening in the mid-1997 was analyzed on the basis of modified coding categories derived from the Mattel case.

This chapter begins with descriptive analysis. Then, the results of downloading media stories and on-line discussion messages and test of hypotheses are presented for each case. Post-hoc analysis concludes this chapter.

Descriptive Analysis

Media Stories

The media stories covering both crises were retrieved solely from the Lexis/Nexis data base. Except for a few news stories with the same content, all the news articles appearing in the search results had been gathered and served as a sample of the media agenda. Consequently, 46 media stories covering the Mattel case and 172 stories about the Hudson Foods company were analyzed.

On-line Messages on the USENET

The Deja News search engine functions as the only source for downloading the on-line messages concerning each crisis event. With different keywords used in each case, 488 messages of the Mattel case and 250 of the Hudson Foods case appeared on the

results pages. However, because not all the messages displaying on the results pages were related to the crisis, many messages were eliminated. Finally, 139 and 154 on-line messages from the Mattel and the Hudson Foods cases were sampled through detailed examination. They were used as the basis for the public agenda to test the hypotheses.

Tone of On-line Messages

Tone of on-line messages was coded as either positive, negative, neutral or unidentified by coders. In the Mattel case, 59 negative (42%) and 5 positive messages (4%) were posted discussing the crisis. In the Hudson Foods case, 66 messages (43%) were considered negative and 11 messages positive (7%). The remaining messages in both cases were either neutral or unidentified. Interestingly, percentages of negative and positive messages in both cases were very close.

Frequency Appearance of User Names in the Discussion Messages

According to Groper's (1996) findings, no single participant in the newsgroups discussion was able to dominate the dialogues and provoke passion among his or her followers. After counting the user name in the e-mail address, it was found that only two persons posted more than three times in all 139 messages in the Mattel case. In the Hudson Foods case, six on-line users posted more than three messages and some even only forwarded media reports without expressing opinions. The majority of on-line users involved in the crisis discussion posted one or two messages. Even though some people might post one single message in different newsgroups, this phenomenon may imply that the corporate crisis did not arouse much self-interest from on-line users who often post messages to the newsgroups.

Users' Strategies

Two types of users' strategy were categorized. One is TALKER strategy applied to users who initiate the discussion thread or express disagreement with other users. Another is REACTOR strategy adopted by users who tend to agree with other people's opinion or do not express their own opinions.

In the Mattel case, 38 users adopted TALKER strategy, while REACTOR strategy was employed by 78 users. In the Hudson Foods case, 46 users were identified to have a TALKER strategy, and 83 employed REACTOR strategy. Because some on-line users had posted more than one message, they could adopt both TALKER and REACTOR strategies in various postings. In total, 83 percent of users, 154 for Mattel and 139 for Hudson Foods, were classified as either TALKERS or REACTORS.

Frequencies of Flaming Messages

As discussed earlier in Chapter two, flaming messages are often posted and seen in the newsgroups, a public discussion forum without a central authority to regulate users' behavior. Contrary to expectation, the analysis of the on-line messages in the two cases revealed that very few messages could be coded as flaming.

In the Mattel case, 14 flaming messages (10%) were analyzed: 9 targeted on the Mattel company, 4 on other users, and 1 on both the company and users. As to the Hudson Foods case, flaming messages were even fewer. Only 7 were retrieved: the government was the flaming target in 3, 3 messages targeted on other users, and 1 targeted on both the government and users.

Mattel Cabbage Patch Doll Defect Case

Case Description

The Mattel toy company encountered a product defect crisis in the United States at the end of 1996. The following story is based on the media stories retrieved from the Lexis/Nexis data base.

On December 28, 1996, the *New York Times* reported that a battery-operated cabbage patch doll manufactured by Mattel, an international toy company headquartered in HongKong, munched a seven-year-old girl's hair and would not let go until her family worked to dissemble the components of the doll. After the news was disclosed in the conventional media, a company spokesman defended the toy, saying that the toy was safe and that no other complaints had been presented. However, in the next few days, more than nine accidents had been reported to the company and the news media as well. The Consumer Product Safety Commission then started to investigate the doll accidents to determine if legal action would be needed.

After January 1, 1997, Mattel decided to take action to resolve the crisis. First, they stuck warning labels on the toy and then recalled all the defective cabbage patch dolls from the retailers, offering 40 dollars as a refund to the customers who had bought this type of doll.

After these interventions, no further serious damage case was discovered or reported by mass media after January 10, 1997. News stories concerning the Mattel company after January 10 had nothing to do with this crisis.

The eruption day of the crisis was December 28 and adoption of the intervention strategies was first reported on January 1, 1997.

Retrieval of Media Stories from the Lexis/Nexis Data Base

As this crisis was solely related to the Mattel company, the keyword for searching the news stories about the crisis was "*mattel*." After identifying the date when any of six major media first reported the crisis event, the time frame was set up to retrieve news stories. In this case, the date was December 28, 1996 when the *New York Times* disclosed this crisis event on Section 1. According to the preset criteria, news stories that appeared on the selected media 10 days before and 32 days after the crisis had to be retrieved from the Lexis/Nexis data base. The time frame hence was from December 18, 1996 to January 28, 1997. The search string was "*mattel and date (aft 12/18/1996 & bef 01/28/1997)*."

Forty-six news stories were downloaded and served as the basis of the media agenda. Frequencies of news stories appearing in these media sources are shown in Table 5-1.

TABLE 5-1.

Frequencies of news stories on each news media in the Mattel case

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ABC News	4	8.7	8.7	8.7
	CNN	8	17.4	17.4	26.1
	NBC News	4	8.7	8.7	34.8
	New York Times	11	23.9	23.9	58.7
	Wall Street Journal	14	30.4	30.4	89.1
	Washington Post	5	10.9	10.9	100.0
	Total	46	100.0	100.0	
Total		46	100.0		

In this case, most media stories came from two major news sources, the *New York Times* and the *Wall Street Journal*; 54 % of total 46 news articles were gathered from these two media.

Downloading of On-line Discussion Messages from Deja News Search Engine

The Deja News search engine provides different ways of retrieving on-line messages that interest the readers. To simplify the search process, the method called "Power Search" was employed, which allows on-line users to specify a time frame and type in the keywords in order to get limited as well as desirable messages related to users' topics of interest.

The time frame for the on-line search was identical to the one established for the conventional media: from December 18, 1996 to January 28, 1997. By using the keywords, "*mattel AND (cabbage OR doll)*," 488 messages displayed on the results pages. To further examine each message, 139 were actually related to the crisis discussion and therefore were used for testing the hypotheses. Frequencies of messages appearing on each sampling day are shown in Table 5-2.

Test of Hypotheses

Hypothesis 1: The average number of daily USENET dialogues regarding the corporation will be greater during the ten days following the eruption of the crisis than the average number of daily on-line dialogues within ten days before the crisis.

As people did not discuss the crisis event until it erupted, all 488 messages downloaded by using the keywords were used to test this hypothesis. Consequently, there were 66 and 136 discussion messages 10 days before and after the crisis eruption,

respectively. Table 5-3 shows a significant difference between the two groups. Therefore, this hypothesis was supported.

TABLE 5-2.

Frequencies of messages appearing on each sampling day in the Mattel case

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	12/28/96	4	2.9	2.9	2.9
	12/29/96	8	5.8	5.8	8.6
	12/30/96	17	12.2	12.2	20.9
	12/31/96	17	12.2	12.2	33.1
	01/01/97	5	3.6	3.6	36.7
	01/02/97	5	3.6	3.6	40.3
	01/03/97	11	7.9	7.9	48.2
	01/04/97	10	7.2	7.2	55.4
	01/05/97	9	6.5	6.5	61.9
	01/06/97	1	.7	.7	62.6
	01/07/97	10	7.2	7.2	69.8
	01/08/97	3	2.2	2.2	71.9
	01/09/97	6	4.3	4.3	76.3
	01/10/97	1	.7	.7	77.0
	01/11/97	11	7.9	7.9	84.9
	01/12/97	2	1.4	1.4	86.3
	01/13/97	5	3.6	3.6	89.9
	01/14/97	8	5.8	5.8	95.7
	01/16/97	5	3.6	3.6	99.3
	01/17/97	1	.7	.7	100.0
	Total	139	100.0	100.0	
Total		139	100.0		

TABLE 5-3.

Results of Hypothesis 1 test in the Mattel case

	N	Mean	Std. Deviation	Std. Error	t - value
10 days before crisis	66	6.6	5.1	1.61	-2.756*
10 days after crisis	136	13.6	6.2	1.96	

*p ≤ 0.05 level

Hypothesis 2: The average number of daily negative USENET dialogues will be greater than the average number of daily positive USENET dialogues after the eruption of the crisis.

The numbers of positive and negative messages during 32 days after the crisis eruption were compared. Table 5-4 shows a significant difference between the average numbers of daily negative and positive USENET dialogues. It thus supported the hypothesis.

TABLE 5-4.

Results of Hypothesis 2 test in the Mattel case

	N	Mean	Std. Deviation	Std. Error	t - value
Positive Messages	5	0.16	0.51	0	3.59*
Negative Messages	58	1.81	2.76	0.49	

*p ≤ 0.05 level

Hypothesis 3: The daily number of the USENET dialogues will be related to the daily number of news stories about a crisis after its eruption.

Consistent with the concept of agenda-setting theory, the more news stories are about a crisis, the more on-line discussion messages should be posted on the USENET.

Simple regression analysis was utilized to test this hypothesis. The number of news stories on each day after the crisis eruption was the independent variable, whereas that of the on-line dialogues was the dependent variable. As r was 0.635 ($r^2 = 0.403$) and significant (F (1, 31) = 20.24, $p < 0.000$), this supported the hypothesis. While the correlation was moderately strong, the relationship was significant and in the expected direction.

> Hypothesis 4: The average number of daily negative USENET dialogues following a crisis intervention strategy will be less than the negative USENET dialogues prior to the intervention.

Twenty-seven negative on-line dialogues in four days had been posted before the adoption of a crisis intervention and 31 messages had been posted in 28 days after its intervention. Table 5-5 reveals a significant difference that supports the hypothesis. Nevertheless, to compare the average number of negative on-line dialogues four days before and after the intervention, the results shown in Table 5-6 differed and the hypothesis was not supported.

TABLE 5-5.

Results of first Hypothesis 4 test in the Mattel case

	N	Mean	Std. Deviation	Std. Error	t - value
4 days before intervention	27	6.75	2.75	1.38	3.96*
28 days after intervention	31	1.11	1.95	0.37	

*$p \leq 0.05$ level

TABLE 5-6.

Results of second Hypothesis 4 test in the Mattel case

	N	Mean	Std. Deviation	Std. Error	t - value
4 days before intervention	27	6.75	2.75	1.38	1.075^{NS}
4 days after intervention	19	4.75	2.5	1.25	

Hypothesis 5: Following a crisis intervention strategy, the average number of daily positive on-line dialogues on the USENET concerning the company will be equal to the average number of daily positive on-line dialogues before the crisis eruption.

As no positive message was posted before the crisis eruption and three were posted after the adoption of intervention, no statistical significance was found in Table 5-7. The hypothesis was supported, although the positive messages were very few.

TABLE 5-7.

Results of Hypothesis 5 test in the Mattel case

	N	Mean	Std. Deviation	Std. Error	t - value
10 days before crisis	0	0	0	0	-1.362^{NS}
28 days after intervention	3	0.11	0.42	0	

Hypothesis 6: The number of the USENET dialogues following a crisis intervention will be less than the number of the USENET dialogues before the intervention and after the crisis.

Comparing the average number of on-line dialogues on each day, four days before ($n_1 = 46$) versus 28 days after the intervention adoption ($n_2 = 93$), the hypothesis was supported as demonstrated in Table 5-8.

TABLE 5-8.

Results of Hypothesis 6 test in the Mattel case

	N	Mean	Std. Deviation	Std. Error	t - value
4 days after crisis and before intervention	46	11.5	6.56	3.28	3.544*
28 days after intervention	93	3.32	3.99	0.75	

*$p \leq 0.05$ level

Hypothesis 7: The number of daily negative USENET dialogues posted by TALKERS will be greater than that by REACTORS.

TALKERS posted 22 negative on-line messages, whereas 34 negative on-line messages were posted by REACTORS. By using a Chi-square test, this hypothesis was not supported as shown in Table 5-9, χ^2 (1, N = 61) = 0.727, $p < 0.394$.

TABLE 5-9.

Results of Hypothesis 7 test in the Mattel case

	Negative	Positive	Total	df	Chi-square value
TALKER	22	1	23	1	0.727^{NS}
REACTOR	34	4	38		
Total	56	5	61		

Hypothesis 8: The Optimism Score of media messages will be positively related to the number of negatively toned USENET messages posted after the media stories were released.

To test this hypothesis, the correlation was examined between the average number of negative on-line messages each day and the Optimism Score, which was calculated by subtracting the number of negative words from the number of positive words found in each media story. The Optimism Score is a summed score for all media messages on a particular day.

Simple regression analysis revealed that the Optimism Scores in news stories were positively related to the number of negative on-line messages posted each day as the correlation coefficient was 0.467, $r^2 = 0.22$, $p < 0.02$. Although the variance explained was small, this hypothesis was supported.

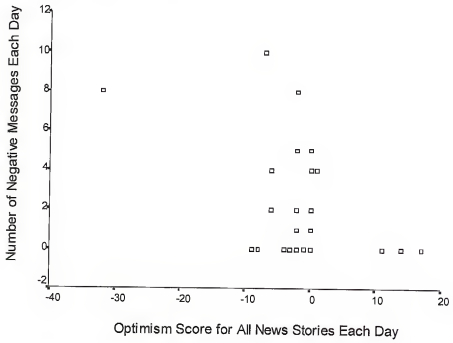


FIGURE 5-1. Bivariate correlation between the number of negative on-line messages and the Optimism Score in the Mattel case

Hudson Foods Meat Contamination Case

Case Description

The Hudson Foods company encountered a serious meat contamination crisis across the United States after July of 1997. The following story is based upon the media stories retrieved from the Lexis/Nexis data base.

On August 12, 1997, the *ABC World News Tonight* had the following coverage: "…, an Arkansas meat processor is recalling 20,000 pounds of frozen hamburger patties which may be contaminated with the E. coli bacteria. Hudson Foods distributed the hamburger nationwide. The problem was first spotted in Colorado when several people who had eaten the hamburger became ill." This news article is the earliest one that showed "*Hudson Foods*" in all news documents of the Lexis/Nexis data base in both July and August of 1997. Therefore, the beginning day of this crisis was considered to be August 12, 1997.

After the government urged more recall of the contaminated meat, Hudson Foods recalled about 1.2 million beef products from the market on August 16, 1997, closed its plant in Nebraska and recalled 25 million beef patties on August 21, 1997, according to the *ABC* news reports.

In the beginning of September, 1997, Hudson Foods agreed to merge with its rival company, Tyson Foods.

As to this crisis case, the eruption day was August 12, 1997 and the adoption of the intervention strategies occurred twice. The first was on August 16, 1997, when the company recalled one million pounds of beef patties and the second was on August 21,

1997, when about 25 million beef patties were recalled and a food plant in Nebraska was shut down.

The intensity of this crisis extended beyond the 42 days framed in this study. The *U.S. News & World Report* and the *Newsweek* in their September editions had stories featuring the food contamination cases in the past decade to demonstrate the importance of food safety. The *New York Times* had the following news story in Section A of its late edition dated on October 2, 1997:

> A Federal grand jury is investigating whether a meatpacking company tried to hide the extent of potential E. coli bacteria contamination in what became the largest meat recall.
>
> Tom Monaghan, the United States Attorney for Nebraska, issued a statement saying the investigation had arisen from information received last month from the Agriculture Department's inspector general regarding the August recall of 25 million pounds of hamburger produced at the Hudson Foods plant in Columbus, Neb.
>
> Mr. Monaghan would provide no other details, but company officials confirmed today that they had received a subpoena for documents related to the recall and expected some employees to be called.
>
> Hudson Foods, based in Rogers, Ark., said in a statement today, "As it has in the past, Hudson Foods will continue to cooperate fully."
>
> Hudson shut down the Columbus plant at Agriculture Department insistence after the amount of meat recalled due to possible E. coli contamination rose from 20,000 pounds initially to 25 million pounds.

Retrieval of Media Stories from the Lexis/Nexis Data Base

To search for news articles about this crisis event in the Lexis/Nexis data base, the company's name "*Hudson foods*" did not appear until August 12, 1997 by using the keywords "*Hudson foods and date (bef 08/31/1997 and aft 07/01/1997).*" Following the preset criteria, news stories that appear on the selected media 10 days before and 32 days after the crisis need to be retrieved from the Lexis/Nexis data base. The time frame

hence was from August 2, 1997 to September 12, 1997 and 172 news stories were downloaded and served as the basis of the media agenda.

TABLE 5-10.

Frequencies of news stories on each news media in Hudson Foods case

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ABC News	20	11.6	11.6	11.6
	CNN	51	29.7	29.7	41.3
	NBC News	29	16.9	16.9	58.1
	New York Times	32	18.6	18.6	76.7
	Wall Street Journal	20	11.6	11.6	88.4
	Washington Post	20	11.6	11.6	100.0
	Total	172	100.0	100.0	
Total		172	100.0		

As Table 5-10 shown above indicates, *CNN* had 51 stories related to the Hudson Foods company and the *New York Times* had the second most, 32 news stories covering this company. Interestingly, the *ABC* did not have any news stories in September containing the keywords of "*Hudson foods*," so only 20 news stories were analyzed from the *ABC* news media.

Downloading of On-line Discussion Messages from Deja News Search Engine

As similar to the Mattel case, the search function of "Power Search" in the Deja News search engine was used to obtain on-line discussion messages pertaining to the crisis. Because the last news article was retrieved on September 12, 1997, discussion messages of one more day were downloaded for time-lag analysis. The time frame then started from August 2, 1997 to September 13, 1997. Keywords were "*hudson AND foods*

OR beef OR meat." That is, any messages containing *hudson foods* or *hudson and beef*, or *hudson and meat* would have been retrieved and examined to determine if they were relevant to the crisis discussion. As a result, 154 messages were regarded as related to the crisis and became the basis of the public agenda. Frequencies of messages appearing on each sampling day are displayed in Table 5-11.

TABLE 5-11.

Frequencies of messages appearing on each sampling day in Hudson Foods case

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	08/08/97	1	.6	.6	.6
	08/13/97	1	.6	.6	1.3
	08/15/97	2	1.3	1.3	2.6
	08/16/97	3	1.9	1.9	4.5
	08/17/97	3	1.9	1.9	6.5
	08/18/97	5	3.2	3.2	9.7
	08/19/97	7	4.5	4.5	14.3
	08/20/97	2	1.3	1.3	15.6
	08/21/97	2	1.3	1.3	16.9
	08/22/97	11	7.1	7.1	24.0
	08/23/97	11	7.1	7.1	31.2
	08/24/97	8	5.2	5.2	36.4
	08/25/97	1	.6	.6	37.0
	08/26/97	1	.6	.6	37.7
	08/27/97	3	1.9	1.9	39.6
	08/28/97	8	5.2	5.2	44.8
	08/29/97	6	3.9	3.9	48.7
	08/30/97	4	2.6	2.6	51.3
	08/31/97	3	1.9	1.9	53.2
	09/01/97	5	3.2	3.2	56.5
	09/02/97	3	1.9	1.9	58.4
	09/03/97	1	.6	.6	59.1
	09/04/97	5	3.2	3.2	62.3
	09/05/97	3	1.9	1.9	64.3
	09/06/97	3	1.9	1.9	66.2
	09/07/97	3	1.9	1.9	68.2
	09/08/97	9	5.8	5.8	74.0
	09/09/97	6	3.9	3.9	77.9
	09/10/97	6	3.9	3.9	81.8
	09/11/97	11	7.1	7.1	89.0
	09/12/97	14	9.1	9.1	98.1
	09/13/97	3	1.9	1.9	100.0
	Total	154	100.0	100.0	
Total		154	100.0		

Test of Hypotheses

Hypothesis 1: The average number of daily USENET dialogues regarding the corporation will be greater during the ten days following the eruption of the crisis than the average number of daily on-line dialogues within ten days before the crisis.

One message regarding the company was posted ten days before the crisis eruption and 25 were posted ten days after the crisis. The t-test shows a significant difference in Table 5-12. Therefore, this hypothesis was supported.

TABLE 5-12.

Results of Hypothesis 1 test in the Hudson Foods case

	N	Mean	Std. Deviation	Std. Error	t - value
10 days before crisis	1	0.1	0.32	0	-3.456*
10 days after crisis	25	2.5	2.17	0.69	

*$p \leq 0.05$ level

Hypothesis 2: The average number of daily negative USENET dialogues will be greater than the average number of daily positive USENET dialogues after the eruption of the crisis.

The numbers of positive and negative messages during 32 days after the crisis eruption were compared. The t-test reveals a significant difference between the average numbers of daily negative and positive on-line dialogues in Table 5-13. Consequently, this hypothesis was supported.

TABLE 5-13.

Results of Hypothesis 2 test in the Hudson Foods case

	N	Mean	Std. Deviation	Std. Error	t - value
Positive Messages	11	0.33	0.54	0	5.71*
Negative Messages	68	2.06	1.85	0.32	

*$p \leq 0.05$ level

Hypothesis 3: The daily number of the USENET dialogues will be related to the daily number of news stories about a crisis after its eruption.

Different from the finding in the Mattel case, this result, $r = 0.231$, $p < 0.197$, $F(1, 32) = 1.742$, $r^2 = 0.053$, does not support this hypothesis. The relationship between number of news stories and that of on-line messages was not significant.

Hypothesis 4: The average number of daily negative USENET dialogues following a crisis intervention strategy will be less than the negative USENET dialogues prior to the intervention.

To test this hypothesis, a one-way ANOVA was used. Unlike Mattel, which had only one intervention, Hudson Foods adopted intervention strategies at two different times. In the Hudson Foods case, hypothesis 4 was tested in three ways.

The first comparison was the average number of daily negative USENET dialogues among three stages, before the first intervention, after the first intervention but before the second intervention, and after the second intervention. Table 5-14 shows no significant relationship among three stages, $F(2, 32) = 2.966$, $p < 0.067$.

TABLE 5-14.

Results of comparison of three stages in Hypothesis 4 in the Hudson Foods Case

		Sum of Squares	df	Mean Square	F	Sig.
Number of negative message	Between Groups	18.140	2	9.070	2.966	.067[a]
	Within Groups	91.739	30	3.058		
	Total	109.879	32			

a. Non-Significant

The second test was to compare the number of negative USENET messages before and after the first intervention stages. Table 5-15 reveals a significant relationship, $\underline{F}\ (1, 32) = 5.38,\ \underline{p} < 0.027$.

TABLE 5-15.

Results of comparison of two stages in Hypothesis 4 in the Hudson Foods Case

		Sum of Squares	df	Mean Square	F	Sig.
Number of negative message	Between Groups	16.250	1	16.250	5.380	.027[a]
	Within Groups	93.629	31	3.020		
	Total	109.879	32			

a. $p < 0.05$ level

The final test was to compare the number of negative USENET messages before and after the second intervention stages. A significant relationship was found in Table 5-16, $\underline{F}\ (1, 32) = 4.247,\ \underline{p} < 0.048$.

TABLE 5-16.

Results of comparison of two stages in Hypothesis 4 in the Hudson Foods Case

		Sum of Squares	df	Mean Square	F	Sig.
Number of negative message	Between Groups	13.240	1	13.240	4.247	.048[a]
	Within Groups	96.639	31	3.117		
	Total	109.879	32			

a. $p < 0.05$ level

Hypothesis 5: Following a crisis intervention strategy, the average number of daily positive on-line dialogues on the USENET concerning the company will be equal to the average number of daily positive on-line dialogues before the crisis eruption.

The ANOVA results in Table 5-17 supported this hypothesis, $n_1 = 1$, $n_2 = 11$, $F(1, 37) = 2.375$, $p < 0.132$. That is, whether the company adopted the intervention or not, no significant difference was found in the average number of daily positive on-line dialogues after the intervention and before the crisis regardless of the few positive on-line messages.

TABLE 5-17.

Results of Hypothesis 5 test in the Hudson Foods case

		Sum of Squares	df	Mean Square	F	Sig.
Average # of Positive On-line Messages Each Day	Between Groups	.632	1	.632	2.375	.132[a]
	Within Groups	9.579	36	.266		
	Total	10.211	37			

a. Non-Significant

Hypothesis 6: The number of the USENET dialogues following a crisis intervention will be less than the number of the USENET dialogues before the intervention and after the crisis.

As Hudson Foods adopted interventions at two different times, this hypothesis was tested in two ways. The first test was to see if the total number of on-line dialogues decreases after the first intervention. By the t-test, Table 5-18 did not support the hypothesis. In other words, the total number of on-line dialogues did not decrease but actually increased with adoption of the first crisis intervention.

TABLE 5-18.

Results of comparison of two stages in Hypothesis 6 in the Hudson Foods Case

	N	Mean	Std. Deviation	Std. Error	t- value
5 days after crisis and before 1st intervention	6	1.2	1.3	0.58	-4.607*
28 days after 1st intervention	147	5.25	3.48	0.66	

*$p \leq 0.05$ level

The other time frame to test this hypothesis was before and after the second intervention. Similarly, the t-test results in Table 5-19 showed no evidence of a decrease in the total number of USENET dialogues after the second crisis intervention. The number of USENET discussion dialogues increased after the second intervention.

Hypothesis 7: The number of daily negative USENET dialogues posted by TALKERS will be greater than that by REACTORS.

TALKERS posted 23 negative USENET dialogues and REACTORS posted 42. By using a Chi-square test, this hypothesis was not supported in Table 5-20, χ^2 (1, N = 76) = 0.004, $p < 0.95$.

TABLE 5-19.

Results of comparison of two stages in Hypothesis 6 in the Hudson Foods Case

	N	Mean	Std. Deviation	Std. Error	t- value
10 days after crisis and before 2nd intervention	25	2.5	2.17	0.69	-2.982*
23 days after 2nd intervention	128	5.57	3.67	0.76	

*$p \leq 0.05$ level

TABLE 5-20.

Results of Hypothesis 7 test in the Hudson Foods case

	Negative	Positive	Total	df	Chi-square value
TALKER	23	4	27	1	0.004^{NS}
REACTOR	42	7	49		
Total	65	11	76		

Hypothesis 8: The Optimism Score of media messages will be positively related to the number of negatively toned USENET messages posted after the media stories were released.

To test this hypothesis, bivariate correlation between the average number of negative on-line messages each day and the Optimism Score was examined as shown in Figure 5-2.

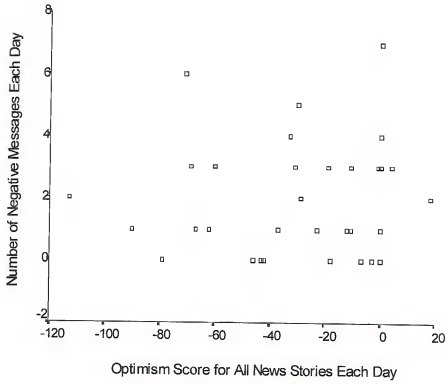


FIGURE 5-2. Bivariate correlation between the number of negative on-line messages and the Optimism Score in the Hudson Foods case

The above figure suggested that the Optimism Scores in news stories were not related to the number of negative messages posted each day as $r = 0.112$ ($r^2 = 0.012$) with $p < 0.536$. As a result, this hypothesis was not supported.

Post Hoc Analysis

According to the agenda-setting theory, there should be a positive correspondent relationship between the media agenda and the public agenda. In the Mattel case, this relationship has been found. The relationship was not found in the Hudson Foods case. To examine why the results of Hypothesis 3 differed between the two cases, additional analyses were conducted. Figures 5-3 and 5-4 show the patterns of USENET messages and the number of news stories.

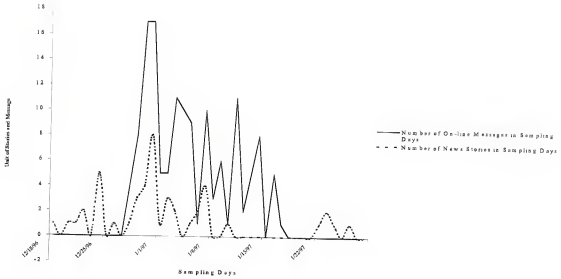


FIGURE 5-3. Relationship between the media agenda and the public agenda in the Mattel case

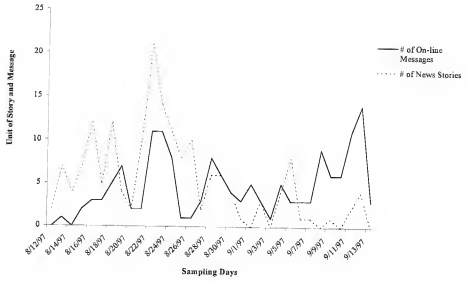


FIGURE 5-4. Relationship between the media agenda and the public agenda in the Hudson Foods case

The lack of a significant relationship between the media agenda and the public agenda in the Hudson Foods case is evident ($r = 0.012$). Using SPSS curve-fitting, a cubic relationship was found to improve the explanatory power of the media agenda

impacting the public agenda from 0.012 to 0.14 as demonstrated in Figure 5-5. The Mattel data illustrate the expected linear pattern of news stories and USENET messages.

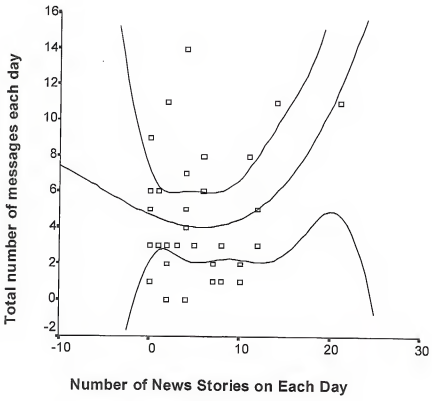


FIGURE 5-5. Cubic relationship between the media agenda and the public agenda in the Hudson Foods case

Analysis of Message Type

In order to better understand the curvilinear relationship between the public agenda and the media agenda, contents of all on-line messages for both cases were re-examined and categorized.

The coding categories were created based on Thomsen's (1996) article analyzing the discussion messages in the PRForum. Five categories were formed:

1. Question/Answer: exchange of information about the crisis or the target company

Example:

Subject: Re: How much Tuna is safe?
From: atcshane@aol.com (ATC Shane)
Date: 1997/08/18
Newsgroups: alt.sport.weightlifting

>I was recently told that eating tuna more than 3 times a week could cause
>mercury poisoning; is there any truth to this?

Hmmm. Sounds like someone is hitting you with some paranoia. I think if it was that easy to get poisoned from tuna, the FDA wouldn't allow it on the market. Heck, look at Hudson Beef. It's like one girl got EColi poisoning and the gov pulled over a million pounds of beef off the market!

2. Opinion: discussion, debates or arguments concerning the crisis, expression of personal experiences

Example:

Subject: Re: [OT] US News Finally Finds a 'Clinton Watch' Scandal
From: gcruse@worldnetnospam.att.net (gary cruse)
Date: 1997/08/23
Newsgroups: alt.current-events.clinton.whitewater

On Sat, 23 Aug 1997 13:07:13 -0500, Bill Nalty
<CBasher@worldnet.att.net> wrote:

>http://www.usnews.com/usnews/issue/970901/1feed.htm
>
>U.S NEWS & WORLD REPORT
>September 1, 1997
>
>
> The next bad beef scandal?
>
> Cattle feed now contains things like
> manure and dead cats
>
>

I'm not sure I wanted to know about this. Well, maybe. But, it sure puts a new light on how "removing agricultural subsidies will put the small farmers out of business." Since, according to the article, this manure recycling is practiced by small

farmers and not agribusiness, I am even
less convinced that individual farming
should be subsidized.

3. Media Report: forwarding media story related to the crisis, updates of media reports

Example:

Subject: From AM News Abuse for August 30/31/Sep 1
From: Daisy <daisy-@geocities.com>
Date: 1997/08/31
Newsgroups: alt.culture.fabulous

Dear Is The Irradiator Ready:
- One result of the Hudson Foods hamburger contamination fiasco is renewed http://www.pmac.net/foodirr.htm discussion about why the beef industry doesn't have FDA approval to use http://www.eatright.org/airradi.html irradiation to kill bacteria like the pork and chicken industries do. Forty countries use it regularly.

4. Crisis Cited as Example: mention of the crisis without expressing any comments, use of the crisis as a sarcastic or funny joke

Example:

Subject: Re: How Damned Convenient
From: <dglmal@telis.org>
Date: 1997/09/07
Newsgroups: alt.conspiracy

No money to the DNC works or maybe nothing more complicated than a gross power grab by the federal government. After all Hudson Foods immediately shut after the FDA said there was a problem. The very same day the Director of the FDA held a news conference stating he wants a law to force closure. Doesn't make sense to me, unless the government was just taking more power.
Everyday American's rights are being removed by an oppressive government and America sleeps. Everyday we talk about how bad it is. Talk is cheap and our rights slip away daily.

5. Combination of category 1, 2 or 3.

Example:

Subject: food irradiation
From: John McCarthy <jmc@steam.stanford.edu>
Date: 1997/08/31
Newsgroups: sci.environment

Here's a Reuters story.

It followed the NYTimes Op-Ed by Richard Rhodes by only a few days. Being a news story and not an Op-Ed it has direct quotes from various people. The Nader minion, Caroline Smith, was negative but was rather mild for a Naderite. She was sufficiently mild it may relieve fears among politicians of an environmentalist attack. There was also the usual expert Gary Smith who said that if only the consumers would cook the food enough, it would be safe. [I won't do that, because I like meat rare, and I think the number of food poisoning incidents is low enough so that eating rare meat or even steak tartare is one of the lesser risks I face.]

The Nader minion says irradiation changes the taste of meat, whereas Rhodes says it doesn't. It would be interesting to know if anyone has ever done an actual test.

WASHINGTON (Reuter) - Irradiation. It may sound sinister but food safety experts say it could become a key tool to keep sickness-causing bacteria out of the U.S. meat supply....

Mattel Case

As shown in Figure 5-6 below, 119 out of the total 139 messages (86%) were coded in the category of either "question/answer" or "opinion." While numbers of the question/answer type messages were equally distributed until January 15, 1997, the number of opinion type messages reached its peak before January 7, 1997. This suggests that the on-line users' concerns about the crisis diminished after it has progressed to the "abate" stage. Overall, the distribution of frequency of the messages corresponded with media coverage of the crisis as previously seen in Figure 5-3.

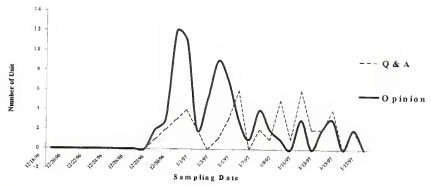


FIGURE 5-6. Distribution of numbers of on-line messages by types in the Mattel case

Hudson Foods Case

An interesting finding arose from the Hudson Foods case when contrasting the public agenda with the media agenda: there are more media stories than USENET messages. The distribution of numbers of messages by types during the sampling period is demonstrated in Figure 5-7.

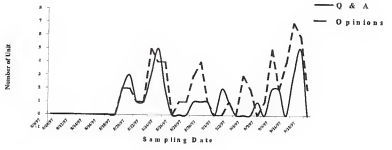


FIGURE 5-7. Distribution of numbers of on-line messages by types in the Hudson Foods case

Analysis of Figure 5-7 suggested that the occurrence of the public on-line messages can be divided into three stages. The first stage runs from the first sampling

day to August 26, 1997, the second stage then begins after August 27 and runs to September 7, 1997. The last stage is after September 8, 1997. An examination of the message content shows that USENET dialogues were primarily question/answer after the crisis erupted and before Hudson Foods implemented intervention strategies. The question/answer content decreased until the final stage, where on-line users again posted more questions and answers. A possible explanation can be found in the complexity of this crisis. The Hudson Foods case involved special terms of food bacteria such as E-coli (main topic of questions in the first stage) and handling of the contaminated meat (main topic of questions in the final stage). This suggests that the public agenda may be questions and answers rather than expressing opinions when the media content is a complicated issue about which the public lacks the knowledge to form an opinion.

Analysis of Combined Data from Two Cases

The central research question in the study is "Does the media agenda have powerful impacts on the public agenda in terms of agenda-setting theory applied to the crisis communication management?" The answer to the above question is *yes* in the Mattel case, but *no* in the Hudson Foods case given the test of Hypothesis 3 yielding distinctive findings. Because both cases belonged to a type of product tampering crisis, data of several variables in both cases were aggregated to provide an alternative answer to this question. The variables being aggregated included number of on-line messages, number of media stories, number of negative on-line messages, and the Optimism Score of media stories on each day.

Because the Mattel case did not have media stories and USENET messages after the 40th day, the data were aggregated across 43 days in this case. The method of

aggregating data in one variable was to add them together from two cases and then to divide the sum by two.

Along with those four variables, tone of messages and users' strategy were also selected to answer another question. For the two categorical variables, 293 cases were generated.

With six variables combined, three questions are formed:

Q1: Is the number of on-line messages on each day positively related to the number of media stories on each day?

Q2: Is the number of negative on-line messages on each day positively related the negative tone that media used in their news stories on each day?

Q3: Is there any difference between TALKERS and REACTORS in posting the negative as well as positive on-line messages on the USENET?

Simple regression analysis was used to answer the first and second questions and the third question was tested with a Chi-square test.

For the first question, $r = 0.599$, $\underline{p} < 0.000$, $\underline{F}\ (1, 42) = 22.99$, $r^2 = 0.359$. There was a strong significant correlation between the number of on-line messages and the number of media stories. Figure 5-8 shows that most on-line messages were posted between day 10 to day 30, that is, on-line users paid attention to the corporate crisis in the first 20 days and then their interests waned.

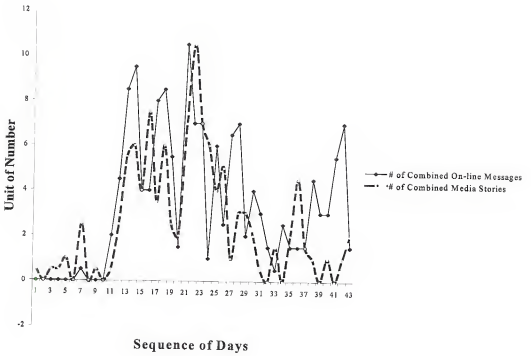


FIGURE 5-8. Frequencies of combined on-line messages and media stories

Frequencies of combined negative on-line messages and the Optimism Scores in media stories are illustrated in Figure 5-9. The correlation coefficient indicated a moderately significant relationship between the two variables, $r = 0.487$, $p < 0.001$, $F(1, 42) = 12.757$, $r^2 = 0.237$.

Concerning the third question, a Chi-square test in Table 5-21 displayed a non-significant difference between TALKERS and REACTORS in posting the negative as well as positive on-line messages on the USENET, $\chi^2 (1, N = 137) = 0.215$, $p < 0.643$. This result was consistent with what has been found in each crisis case as TALKERS did not particularly post more negative messages than REACTORS.

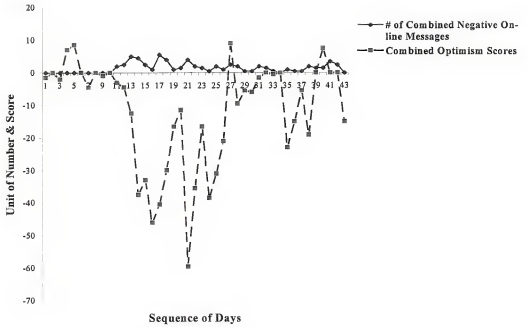


FIGURE 5-9. Frequencies of combined negative on-line messages and the Optimism Scores in media stories

TABLE 5-21.
Results of Chi-square test with combined data

	Negative	Positive	Total	df	Chi-square value
TALKER	45	5	50	1	0.215^{NS}
REACTOR	76	11	87		
Total	121	16	137		

The summation of findings and answers to the research questions will be presented in the next chapter. The crisis communication model based upon the public agenda examined in both cases will also be discussed, followed by limitations of the study. Implications and suggestions for public relations professionals as well as academic researchers conclude the final chapter.

CHAPTER VI
DISCUSSION

Contrary to the traditional way of surveying people about their opinions, this research employed content analysis to investigate what people really *think and say* about a corporation involved in an unexpected crisis. Agenda-setting theory functioned as a theoretical framework for developing research questions. In addition, Sturges' public opinion model and MacKuen's strategy model of public dialogue were used to understand the trend of on-line public opinion concerning two selected corporate crises.

Four research questions and eight hypotheses were presented in Chapter three to examine to what degree the media coverage of a crisis and the corporate intervention strategies affect the public discussion on the USENET. The tone of the USENET dialogues was the major focus. The numbers of negatively and positively toned messages were the dependent variables, forming the wave line of a crisis communication model proposed later in this chapter.

The results of hypothesis testing are summarized first, followed by answers to the research questions. The crisis communication model generated from the findings is outlined next, followed by limitations of the study. This chapter ends with implications and suggestions for future research.

Summation of Findings

Mattel Case

Seven hypotheses out of 8 in the Mattel crisis case were supported. The number of negative USENET messages increased after the crisis erupted. There were 46 messages discussing the crisis 4 days before the company decided to take intervention actions. Among them, 27 (59%) were negative. However, after the company adopted the intervention strategies, such as recall of defective products, refunding, and a warning label attached to the product, the total number of discussion messages was reduced.

With regard to application of agenda-setting theory for testing the hypotheses, the number of media stories covering this crisis supports the notion of causal influences on the number of on-line messages. Even the negative tone of news articles was significantly correlated with the number of negative on-line messages, $r = 0.467$, $r^2 = 0.22$, $p < 0.02$.

The only hypothesis not supported was the test of bivariate correlation between users' strategies and the tone of on-line messages. There was no significant correlation between employment of users' strategies and the number of negative on-line messages, $\chi^2 (1, N = 61) = 0.727$, $p < 0.394$.

Hudson Foods Case

Only three hypotheses were supported in this meat contamination case. The total number of on-line messages about the Hudson Foods company and negative on-line messages increased after the crisis erupted. With a few positive on-line messages analyzed, their numbers were similar after the intervention actions were taken, $F (1, 37) = 2.375$, $p < 0.132$.

Unlike the findings in the Mattel case, the number of media stories did not causally impact the number of on-line messages, $r = 0.231$, $p < 0.197$, $F(1, 32) = 1.742$, $r^2 = 0.053$, with 172 media stories and 154 on-line messages analyzed. Neither did the tone of media stories have a significant correlation with the number of negative on-line messages, $r = 0.112$, $r^2 = 0.012$, $p < 0.536$.

As in the Mattel case, no significant correlation between users' strategy and the number of negative on-line messages was found, $\chi^2 (1, N = 76) = 0.004$, $p < 0.95$.

Data Aggregation in Both Cases

Results from analysis of the aggregated data corresponded with concepts of agenda-setting theory. The finding, $r = 0.599$, $p < 0.000$, $F(1, 42) = 22.99$, $r^2 = 0.359$, supported the assumption that the conventional media coverage of a corporate crisis one-sidedly affects the public discussion about the crisis or the target company. The tone that the media used to cover the crisis events also had a moderately significant correlation with the number of negative on-line messages, $r = 0.487$, $p < 0.001$, $F(1, 42) = 12.757$, $r^2 = 0.237$. Again, no significant correlation between users' strategy and the number of negative on-line messages was found, $\chi^2 (1, N = 137) = 0.215$, $p < 0.643$.

Research Questions

Research questions in this study were based on the Sturges' public opinion model, past agenda-setting studies, and MacKuen's model of public dialogue. They are summarized from Chapter III as follows:

1. Does the trend of on-line public opinion during the corporate crisis follow Sturges' model?

2. Does the media agenda affect the public agenda in terms of the first and second level of agenda-setting theory?
3. Do on-line users applied to MacKuen's concept of users' strategies post different numbers of negative messages?

The trend of public opinion during the time of the Mattel crisis matched Sturges' public opinion model of crisis communication. The number of on-line discussion messages moved up and down with the advent of the crisis and adoption of the interventions. The development of public opinion was similar to what was predicted by Sturges (1994) from pre-crisis to the termination stage (See Figure 3-2 on p. 40). To compare the numbers of negative and total on-line messages with the media reports, the media impact on the public agenda was consistent with the agenda-setting studies. Therefore, answers to the first two questions are positive.

In the Hudson Foods case, the trend of public opinion did not look like that in the Mattel case, although the number of negative or total on-line messages indeed grew in the beginning of the crisis. The number of on-line messages did not decline even after Hudson Foods took intervention actions. The public still felt very concerned about this crisis. The reason for this could result from the prolonged media reports about food safety. For instance, 34 news articles between September 14 and October 15, 1997 about the Hudson Foods company or food safety in major newspapers were found through a search in the Lexis/Nexis data base. The media agenda has gone beyond the 43-day time frame in this case study. As a matter of fact, the meat contamination accident had been reported dating back to June, 1997.

Another reason could be due to the intense and broad impact of this crisis on the consumers as well as the food industry, motivating people to feel more uncertain and concerned about the product safety of daily food than about toy dolls in the Mattel crisis.

To answer the second research question, the number of media stories did not increase the number of on-line messages. The explanation for this finding would be due to the uneven numbers of retrieved messages, equally stretched out to all sampling days, while the majority (48%) of 154 media stories appeared from August 21 to August 26. In fact, if comparing both variables within another time frame, the finding differs. For example, if the average number of news stories is compared with that of on-line messages each day before the first intervention, the correlation is significant, $r = 0.943$, $p < 0.016$, $F(1, 4) = 24.14$, $r^2 = 0.889$.

As discussed earlier, answers to the third research question in both cases is "*no*." No significant correlation between users' strategies, TALKER and REACTOR, and the number of negative on-line messages was found, even with data combined. As a result, there was no difference among on-line users being identified as TALKERS or REACTORS in posting negative messages about the company.

Failure to detect the significant correlation between users' strategies and the number of negatively toned on-line messages could rest on the difference of the settings where the public dialogues take place on a daily basis. MacKuen urged that democracy will progress when people use TALK/CLAM strategies in a public discussion forum to become involved in meaningful dialogues. However, in order to frame a friendly situation, people will likely adopt REACT/SIGNAL strategies without expressing disagreement.

Situated in the so-called "virtual reality" of the Internet, anonymous users by using TALKER or REACTOR strategies are allowed to freely post their opinions either agreeing or disagreeing with other people without worrying about getting into an unfriendly environment that impedes public discussion or mutual communication.

Proposed Crisis Communication Model

In times of crisis, monitoring the media agenda as well as the public agenda is the key to successful crisis management. Considering the urgency of the crisis and pressure on the organization, a communication model that facilitates control over trends of public opinion is indispensable.

Any crisis communication model based on this examination of public discussion messages on the USENET must integrate several factors. The fourth hypothesis test revealed the importance of adopting intervention strategies that can reduce the number of negative on-line messages about the corporation. Consequently, the earlier the interventions are employed, the quicker the negative public opinion about the company is neutralized.

In both cases examined, the content of on-line messages was re-examined for the qualitative analysis. The results showed that not all messages posted on the newsgroups expressed opinion. Some of them were information exchange or questions/answers posting. The corporation should not only feel concerned about what people say about the crisis, but about what people want to know about the crisis situation. It then can respond to the questions posted on the Internet.

Take Hudson Foods as an example. Some on-line users asked about how much harm the E-coli bacteria could cause to human beings. Some felt anxious about the

handling methods of recalled meats. Some even desired to know how to properly cook the beef to avoid being infected by the E-coli bacteria. Suppose that Hudson Foods had been able to respond to these questions through the traditional media and the Internet, the duration of the crisis might have been much shorter. Taking advantage of the spontaneous and interactive characteristics of the Internet, the Tommy Hilfiger company set a good example for fighting against a racism rumor crisis in early 1997.

Analysis of combined data from the two cases demonstrated the causal impact from the traditional media coverage to the number of on-line messages. In view of second level agenda-setting theory, the tone of media stories had a slightly significant impact on the number of negative on-line messages, too. It is assumed that the public agenda on the USENET will correspond to the media agenda in most, if not all, corporate crises.

If a corporation reacts to the on-line public agenda, which is influenced by the media coverage, with proper intervention strategies, it should expect the total number of public on-line messages to decrease along with the number of media stories about the crisis. Figure 6-1 is an optimal model of crisis management communication for two weeks after a crisis occurs. On day 4, media reports increase because the corporation has taken appropriate intervention actions fast enough to contain the negative impact of the crisis on the company. Then, hopefully, both the media as well as the public agenda will gradually move to the "dormant" stage after day 11.

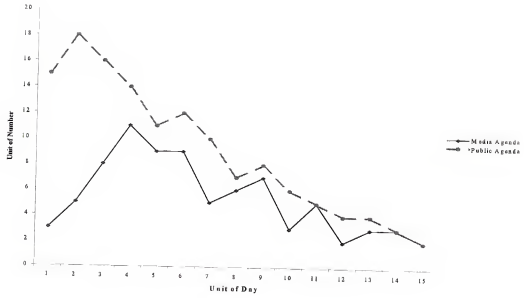


FIGURE 6-1. An optimal crisis communication model dealing with public agenda and media agenda

Limitations

Despite growing and innovative uses of the new media, the Internet, the sampling method used to download the on-line discussion messages through Deja News search engine ran a risk of violating the content validity. Although the Deja News company claims that it has stored hundreds of millions of articles posted on miscellaneous newsgroups in its archives, it also implies that most spamming or flaming messages were filtered out. If so, it is likely that some messages about the crises that were regarded as flaming or profane by the Deja News company had been excluded from the data base. The search keywords used in the "Power Search" function would also contribute to the possible omission of some pertinent messages. Because numerous on-line users post their messages to the USENET every day, the population frame becomes unknown when it comes to sampling error.

In order to explore new theoretical ground work and obtain good control over the analytical data, only two crises were selected to test the hypotheses. Both cases were of the same type, product tampering. Small sample size may limit the reliability and validity of the findings; caution should be taken before generalizing these results to other types of corporate crises.

The crises selected in the study were originated from the media coverage that led the public discussion on the USENET. Nevertheless, because people can anonymously post messages on the Internet, a few crises could first start on this new media and then be covered by the conventional media. Findings need to be strictly applied to those crises first reported by the traditional media.

According to the preset criteria, the crisis was deemed as being covered by major media and discussed by on-line users in the newsgroups for two weeks. Other corporate crises that did not last two weeks of media coverage were missed. Those could be useful to establish a sound crisis communication model.

The number of media sources is another limitation to analysis of the media agenda. To add other types of media, such as electronic newspapers and magazines on the Internet, is necessary to expand the scope of the media agenda as more and more people surf the Internet for information from these on-line media.

The television news programs were examined by coding the textual transcripts obtained from the Lexis/Nexis data base. To improve the reliability of media content analysis and broaden the dimensions of the second level agenda-setting theory, it is better to watch the live television broadcasts and analyze the crisis news items or attributes framed in the program content.

Because coding categories on the tone of public opinion are self-defined, these coding items would vary contingent upon the nature of the crisis. Development of consistent and unified coding categories applied to different types of corporate crises will facilitate future qualitative analysis of on-line discussion messages for both public relations professionals and researchers.

Implications and Suggestions for Future Study

Implications

Agenda-setting theory has been tested in various fields in the social sciences. The central idea is the one-sided influence of the media coverage of issues on public opinion about or perception of issues. Since 1972, the media agenda has been examined through content analysis of media reports, whereas analysis of the public agenda has relied on opinion surveys or secondary survey data. This study adds one small piece to the literature of public opinion by employing content analysis of public discussion messages on the USENET.

This change in method from the traditional survey of public opinion encourages public relations professionals to explore more about what people *say and think* about the unexpected crisis they encounter. For both media professionals and academic researchers, a variety of public discussion forums on the Internet offer an excellent opportunity to measure the general public's opinion about all kinds of issues. If time and cost permit, it is suggested that both personal surveys and content analysis of the public messages posted on the on-line discussion forums be utilized to grasp trends of public opinion more objectively and accurately.

The crisis communication model proposed in this study was outlined from two corporate crises focusing on the on-line public agenda integrated with the conventional media agenda. To take another look at the content of on-line messages, many factors might affect the trend of on-line public opinion. For instance, both cases were involved in the governmental inspection of products or manufacturing plants. A crisis such as the Hudson Foods case can be complex enough for people to comprehend that it will extend the duration of the media reports as well as the public's concerns. The extent to which a crisis will impact the general public and society will also prolong the time line for the public on-line discussion.

Although only public on-line dialogues were analyzed as a surrogate of the public agenda, it was true that adoption of corporate intervention strategies is the key factor to succeed in neutralizing or reversing people's negative perception of the company. This finding also corresponds with recommendations provided in previous crisis communication literature.

The capability of rapidly responding to public concerns about a crisis expressed on the Internet is a widely recognized strength that the Internet brings to the public relations field. Only through sound planning for media monitoring is a public relations program able to reduce the damages caused by the crisis. Ironically, not one message posted in the newsgroups was found from anyone representing Mattel or Hudson Foods. However, several messages analyzed from the Hudson Foods crisis were posted by an employee from the Tyson Foods company, which was merged with Hudson Foods and mistakenly treated as guilty as the Hudson Foods company. This example illustrates that not only should public relations people monitor the public discussion forums on the

Internet, but more proactive steps need to be taken to clarify any doubts or misunderstandings appearing on the Internet among on-line users.

Although on-line users discussing both crises represent only a tiny segment of the general public, their voices should not be ignored by public relations practitioners. One reason is because it is very likely that one person's badmouthing on the Internet may cause irreparable damages to the company beyond what would be expected. Another reason is that other on-line users who did not participate in the discussion or media reporters who looked for news information about the crisis might actually substantiate the harmful messages and further spread them all over the Internet and other media. Thus, public relations professionals need to remain alert for unexpected on-line crises when dealing with potential target audiences on the Internet.

Suggestions for Future Studies

The popularity of new communication technologies provides an opportunity for both academia and professionals to examine the relationship between the media agenda and the dynamic public opinion expressed in the new media. Content analysis of public discussion messages on the Internet paves the way for improving aspects of agenda-setting theory and sheds light on understanding the impact of this dynamic new media, the Internet.

This research demonstrates that the traditional concept of agenda-setting theory can be applied to the new media environment with statistically significant results as in the Mattel case and in the analysis of combined data from both cases. Prior to this, it was only assumed that its applicability was transferable among the mainstream media. As far as communication theories are concerned, agenda-setting theory will serve as a

supplemental theoretical framework to help public relations professionals implement effective crisis management planning for dealing with on-line public discussion.

Concerning the second level study of agenda-setting theory, a textual analysis software, *DICTION*, was used to analyze the tone of media stories. Although only numbers of negative and positive words in media stories were used in calculation of the Optimism Score stated in Hypothesis 8, this software is still of considerable value to examine the contents of communication texts. Given huge amounts of communication messages or information to be examined from the Internet, it is foreseeable that the computerized software will be broadly used in order to gain more reliability and validity in content analysis.

For future testing of the proposed public opinion model, three suggestions are made. First, as this research exclusively focused on examination of the USENET dialogues as a basis of the public agenda, to expand the explanatory and predictive power of this crisis communication model, other interactive communication channels emerging from the new technologies for expressing public opinion should be considered along with on-line newsgroups. The communication channels such as on-line chat rooms, local BBSs, corporate web sites, government sites to which people direct their complaints about the crisis, and even commercial services like America Online and Microsoft Network will help reveal to all how the public perceives the crisis event and the target company. Public relations professionals should expand their monitoring outlets so that they can make more precise judgements in planning the management of crisis communication that will benefit both the corporation and the general public.

Second, because the impact of each corporate crisis on the society and the public varies, duration of the public's interests and attention differs as well. Extending this model to other types of crises other than a product tampering crisis may shed light on how to manage trends of public opinion while experiencing distinctive corporate crises.

Third, for theoretical researchers to compare and contrast content analysis of public opinion with general personal surveys will verify the convergent validity of public opinion measurement, that in turn also solidifies establishment of a public opinion model.

Although the crises in the study did not originate from the Internet like the Intel Pentium Flaw crisis, it is advisable that issue management becomes even more important before that issue evolves into a harmful crisis spreading over the Internet. Investigating corporate crises originating from the interactive media instead of from the traditional media in the future can improve understanding of the mutual influences of the traditional and new media.

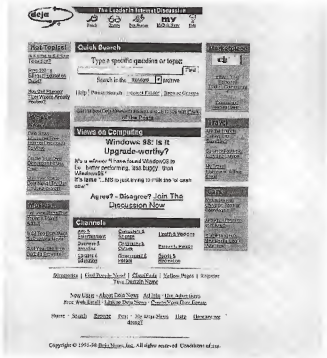
Various types of crises need to be selected to re-test the public opinion model outlined earlier. It would also be important in selecting a local-based crisis or an international crisis to test whether trends of public opinion about the crises are formed in the same way as examined in this study.

The main purpose of this study was to examine the relationship between one independent variable, the media agenda, and one dependent variable, the public agenda. As corporate agendas are covered by the wire services, which in turn might set an agenda for other types of media, it becomes necessary for the academics to further understand the effects of the corporate agendas on the media agenda and the public agenda expressed on the new media. To enrich public relations crisis management literature and to solidify

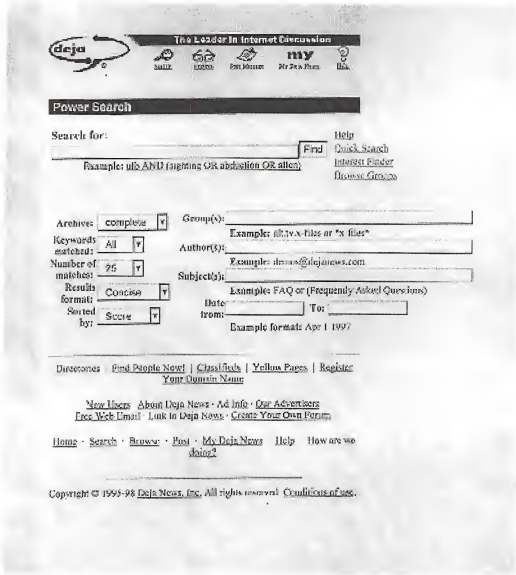
agenda-setting theory, researchers can incorporate information about the crisis from the news wire services, corporate reactions publicized in the news releases, and the governmental reactions to the public agenda to better understand the inter-relationships between these independent variables and trends of public opinion. After all, public opinion does not change only because of the single factor of media coverage.

Agenda-setting theory proved useful in predicting development of public opinion about the corporate crisis expressed on the USENET through examination of the news media coverage. Content analysis of the public agenda provides another outlook of public opinion on the Internet. For public relations professionals, most crises happen unexpectedly, but hopefully, this content analysis of on-line messages will offer insight into how they should handle the crisis in terms of monitoring the interactive new media. For the academic researchers, content analysis of the public agenda can improve the agenda-setting theoretical framework in view of the first and second level research. Because most findings corresponded with the ideas of agenda-setting theory, this study should contribute to enriching the empirical as well as theoretical applicability of this theory, at both the first and second levels, to the new media research.

APPENDIX A
HOME PAGE OF DEJA NEWS SEARCH ENGINE



APPENDIX B
POWER SEARCH PAGE OF DEJA NEWS SEARCH ENGINE



APPENDIX C
CODING SCHEME FOR NEWS STORIES

News story identification #: #_____

Media source:

❑ ABC News ❑ CNN ❑ NBC News ❑ New York Times

❑ Wall Street Journal ❑ Washington Post

Crisis target audience:

❑ employees ❑ customers ❑ stockholders ❑ all publics

❑ community members

News story dated: Month_____ Day_____ Year_____

Intervention dated: Month_____ Day_____ Year_____

Intervention type(s)_____

1. evacuation of employees, particular publics involved in the crisis for the sake of safety,
2. hosting news conference to admit or disclose happening of the crisis,
3. setting up hot lines to answer requests from media and publics,
4. provision of medical services to the injured or dead people,
5. preparation or ready for negotiation with interest groups or specific publics concerning the crisis,
6. product recalls or destroy,
7. decision to enforce laws to combat the crisis,
8. offer of monetary or product compensation,

9. making public apology,
10. acknowledgement of wrongdoing,
11. replacement of persons who causes the crisis, or
12. promise to preventing from occurrence of the similar crisis.

APPENDIX D
CODING SCHEME FOR ON-LINE MESSAGES

On-line message identification #: #_____

On-line message dated: Month_____ Day_____ Year_____

Target of flaming message: ❑ Government ❑ Company

❑ Other Users ❑ Some or all of above

❑ Others_____

User's strategy: ❑ TALKER ❑ REACTOR ❑ Unidentified

User's name in the e-mail: _____

Tone of on-line message:

❑ *Negative*--- Why?_____

a) request legal action against the company,
b) request compensation from the company,
c) mention of personal or others experiences suffering from the crisis event,
d) urge the boycott of the company's product or service,
e) give sarcastic jokes or harsh comments about the company, or
f) blame or accuse the company for its wrong doing or its defected product(s).

❑ ***Positive***--- Why?_____

a) urge end of a boycott,
b) compliment the company,
c) mention the laws as unfair to the organization,
d) praise company's intervening actions, or
e) deny that the crisis event is solely due to the company.

❑ ***Neutral***--- Why?_____

a) forwarded media reports without expressing opinion,
b) forwarded website information without expressing opinion,
c) personal questions or responses to others' messages without expressing any opinions, or
d) statements that take the crisis issue for granted without blaming or praising the company.

❑ ***Non-applicable***

User's identification: ❑ Company's employee

❑ Company's management

❑ Other occupation_____

❑ Unable to identify

APPENDIX E
SAMPLE OF REPORT FILE IN *DICTION* SOFTWARE

TOTAL NUMBER OF WORDS ANALYZED = 26
NUMBER OF CHARACTERS IN PASSAGE = 158
CHARACTERS PER WORD = 4.62
NUMBER OF DIFFERENT WORDS = 24
ALPHA-NUMERIC IDENTIFIERS:
0 0 0 0 0 0 0 0
DESCRIPTIVE IDENTIFIER:
<none>

INPUT TEXT

Geez, Chuckie LIVES!! Actually, can you imagine how frightening something like that would be to a little kid. Attacked by a doll that eats it's owners?!!

```
**********************************************
* This passage contains fewer than 500 words. *
* Because DICTION's norms are based on       *
* 500-word samples, the raw scores reported  *
* here cannot be compared to the normal range *
* of scores provided.                        *
**********************************************
```

DICTIONARY TOTALS

VARIABLE	FREQ. (FREQ/26)	PER CENT	NORMAL RANGE OF SCORES (#)	STANDARD-IZED SCORES	
Numerical Terms	0.00	0.00	0.30-- 15.04	-1.04	*
Ambivalence	2.00	7.69	6.49-- 19.21	-1.71	*
Self-reference	0.00	0.00	0.00-- 15.10	-0.86	

Tenacity	2.00	7.69	23.32-- 39.76	-3.59	*
Leveling	1.00	3.85	5.02-- 12.76	-2.04	*
Collectives	0.00	0.00	4.04-- 14.46	-1.78	*
Praise	0.00	0.00	2.77-- 9.59	-1.81	*
Satisfaction	1.00	3.85	0.47-- 6.09	-0.81	
Inspiration	0.00	0.00	1.56-- 11.10	-1.33	*
Blame	1.00	3.85	0.06-- 4.16	-0.54	
Hardship	0.00	0.00	1.26-- 10.48	-1.27	*
Aggression	1.00	3.85	1.07-- 9.79	-1.02	*
Accomplishment	0.00	0.00	4.96-- 23.78	-1.53	*
Communication	0.00	0.00	2.21-- 11.79	-1.46	*
Cognitive Terms	1.00	3.85	4.43-- 14.27	-1.70	*
Passivity	0.00	0.00	2.10-- 8.08	-1.70	*
Spatial Awareness	0.00	0.00	4.17-- 19.85	-1.53	*
Familiarity	6.00	23.08	117.87--147.19	-8.63	*
Temporal Awareness	0.00	0.00	8.36-- 21.82	-2.24	*
Present Concern	1.83	7.05	7.02-- 16.60	-2.08	*
Human Interest	1.65	6.35	18.13-- 45.49	-2.20	*
Concreteness	1.00	3.85	10.70-- 28.50	-2.09	*
Past Concern	1.00	3.85	0.97-- 6.19	-0.99	
Centrality	0.00	0.00	1.19-- 7.54	-1.37	*
Rapport	0.00	0.00	0.42-- 4.26	-1.22	*

Cooperation	0.00	0.00	0.36-- 8.44	-1.09	*
Diversity	0.00	0.00	0.07-- 3.81	-1.04	*
Exclusion	0.00	0.00	0.00-- 4.31	-0.99	
Liberation	0.00	0.00	0.00-- 4.72	-0.82	
Denial	0.00	0.00	2.57-- 10.35	-1.66	*
Motion	0.00	0.00	0.17-- 4.35	-1.08	*

USER DICTIONARY TOTALS

DICTIONARY NAME	FREQUENCY
<none>	

WORDS DESIGNATED TO COMPOSE INSISTENCE SCORE: None.

CALCULATED VARIABLES	SCORE	NORMAL RANGE OF SCORES (#)	STANDARD-IZED SCORES	
Insistence	0.00	6.71-- 79.67	-1.18	*
Embellishment	0.52	0.18-- 1.10	-0.26	
Variety	0.92	0.45-- 0.53	10.83	*
Complexity	4.62	4.31-- 5.01	0.02	

COMPOSITE VARIABLES	SCORE		
Activity	48.58	47.18-- 52.46	
Optimism	49.53	46.90-- 54.00	
Certainty	34.19	47.48-- 53.50	*
Realism	32.19	48.59-- 54.37	*
Commonality	49.17	47.80-- 53.42	

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BIOGRAPHICAL SKETCH

Tzong-Horng Dzwo was born in a southern city of Taiwan, on October 25, 1964, and has lived in Taiwan nearly 30 years before coming to the United States for graduate study. He received a bachelor's degree in British and American Literature from Tung-hai University in Tai-Chung City of Taiwan. After two-year military service from 1986 to 1988, he worked as a sales person and account executive for a domestic shipping company for two and a half years.

Gaining three years of working experiences in Taiwan, in 1992 Dzwo came to the United States to pursue his master's degree in mass communication with a concentration in public relations at the University of Georgia. In the fall of 1994, Dzwo continued the doctoral studies at the University of Florida, where he began to focus on applied research of new media in the public relations field. For three years since 1994, he worked as a research assistant as well as teaching assistant to help students learn more about computer programs and statistics related to mass communication research. Awarded the academic achievement for the international students twice while at the University of Florida, Dzwo will return to his mother land, Taiwan, to assume a teaching position in August 1998.

Dzwo, his wife and their three kids will live in Taiwan after August 1998 and can be reached at (886) 8-766-2674, #1-1, Lane 293, Chung-wu Rd., Ping-Tung City, Taiwan.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

John C. Sutherland

John C. Sutherland, Chair
Professor of Journalism and
Communications

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Marilyn S. Roberts

Marilyn S. Roberts
Associate Professor of Journalism and
Communications

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Gail L. Baker

Gail Baker
Associate Professor of Journalism and
Communications

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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This dissertation was submitted to the Graduate Faculty of the College of Journalism and Communications and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August 1998

Dean, College of Journalism and Communications

Dean, Graduate School